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ABSTRACT

The three units of the instructional package included here discuss the use of: commercial directories, organization directories, and biographical directories. The specific commercial directories discussed are: "Poor's Register," "Sweet's File," and "Thomas Register of American Manufacturers." The "Research Centers Directory," and its supplement "New Research Centers," are the organization directories covered in the second unit. The unit on biographical directories categorizes biographical sources into three groups: (1) universal, which include notable persons of all times and all places; (2) retrospective, which are limited to notable persons now dead; and (3) current, which answer a wide range of questions on living persons. (Other units of this instructional package are: LI004051-004052 and LI004054-004055, the instructional package is discussed in ED032085.) (Author/NH)

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REFERENCE TOOLS AND SERVICES:

Introduction to the Use of Commercial, Organization

and

Biographical Directories

On-The-Job Training of Library Personnel

U.S. Office of Education
OEC-1-7-071214-5116
with support from the U.S. Army ATLIS Project

System Development Corporation
2500 Colorado Ave.
Santa Monica, California 90406

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REFERENCE TOOLS and SERVICES

Commercial Directories

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Produced under contract with the U.S. Office of Education OEC-1-7-071214-5116, with support from the U.S. Army ATLIS Project.

SDC

2

Introduction to the Use

of

Commercial Directories:

Thomas Register of American Manufacturers

Instructions for Using the Text

This is a form of "programmed text"--that is, in working with it, you must follow the instructions as to which pages to turn to, rather than reading it through, page by page. It contains a series of multiple-choice questions. At the end of each question are numbered answers; the number of each answer is also the number of the page on which that answer is discussed. Don't worry about getting the wrong answers. The text will help you get through the entire series of questions, whether your first answers are right or wrong.

Directories form the largest single category of reference works. It can be estimated that the number of directories in print in the U.S. today exceeds 100,000. This figure includes telephone directories, city directories, directories of local clubs and organizations, as well as commercial and cultural directories of regional, national, or international scope. In organization, most directories consist of a series of entries listed under specific titles arranged in alphabetical order. An index or detailed table of contents permits the user to easily find the specific information he wants. If a patron seeks personal data about a prominent professional person, including home and business addresses, the reference librarian can often locate this information by consulting the appropriate directory. If a patron would like to know if Mr. So-and-So is still vice-president of a particular firm, the reference librarian can find out by consulting the directory in which the firm is listed. Such data as credit ratings, current and past earnings, properties and assets, connections with other companies, organizational histories, and stock ownership and status can also be supplied by the reference librarian thrcugh the use of directories.

Suppose you are the reference librarian on duty when a patron walks in and wants to know the addresses of all branch offices of the Bethlehem Steel Corporation. Where would you go for an answer to this question? Select the response you believe is most correct and turn to the page indicated by the number preceding your choice.

2. Poor's Register
3. Sweet's File
4. Thomas Register

Your answer is Poor's Register. This is incorrect. Poor's Register does contain an alphabetically arranged listing of corporations, including the principal business address and the names of all officers and directors. If you had looked in Poor's Register, however, you would have found that the addresses of branch offices of the Bethlehem Steel Corporation are not given. Turn back to the question and choose another answer.

Your answer is Sweet's File. You are wrong. Sweet's File is an annually published bound volume of manufacturer's catalogues. In five volumes, it provides information on suppliers of equipment, covering product design, product engineering, machine tools, industrial, construction, and architecture. The volumes are indexed by firm, product, and trade name. Only principal business addresses are given. Addresses of branch offices are not noted. Turn back to the question on page 1 and choose another answer.

Your answer is Thomas Register.* You are correct. Volume 7 of Thomas Register (which we are going to call **TR**) contains an alphabetical listing of leading manufacturers, showing home offices, branch offices, subsidiaries, successors, and other data. For more information about this important reference tool, turn the page.

*We have used the common name for this publication here. The full publication title is Thomas Register of American Manufacturers.

THOMAS REGISTER OF AMERICAN MANUFACTURERS

The Thomas Register of American Manufacturers is claimed by its publisher to be the largest and most complete purchasing encyclopedia ever published anywhere. It is issued annually, that is, once each year, and comes in seven volumes and an index.

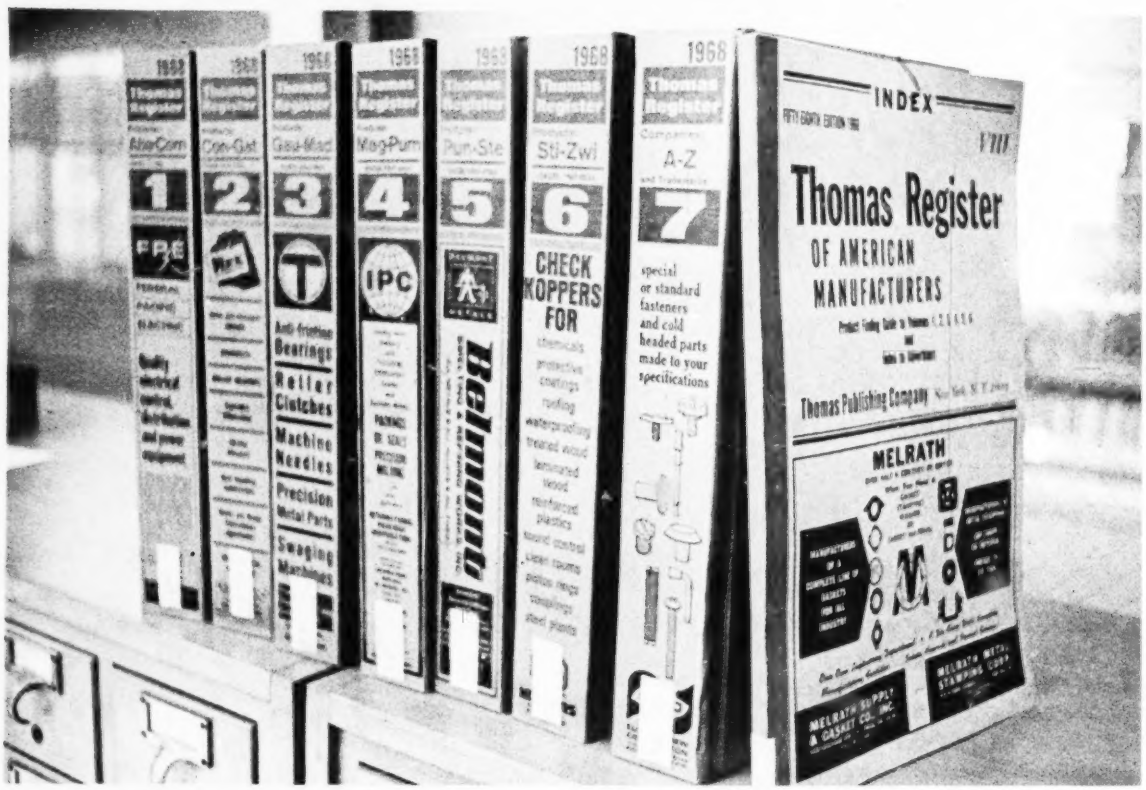


Figure 1. Thomas Register of American Manufacturers

In looking at the bindings of Volumes 1-6 in Figure 1, you see that they contain product classifications arranged alphabetically by name of the product. Volume 7 contains an alphabetically arranged list

of all important manufacturers, trademarks, board of trade, and other commercial organizations. Volume 8 contains an alphabetical product finding guide and an index to advertisers.

Figures 2 through 6 are preliminary pages from the Thomas Register. Read them thoroughly, then turn to page 12.

THIS IS YOUR 58TH EDITION OF

THOMAS REGISTER
AMERICAN MANUFACTURERS

the largest and most complete purchasing encyclopedia ever published anywhere.

If it weren't this large—It wouldn't be complete!

THE REASONS FOR T. R. SUPREMACY

7 Volumes and Index • More than 10,000 pages of information for Buyers • More than 50,000 Product Descriptive Advertisements • More than 70,000 Classifications.

Used for purchasing 120,000 times a day • 100% Paid ABC Circulation

Completely lists all Manufacturers classified by product — the alphabetical Quick Finding Product Classification Index has 80,000 page number references to T. R. Product Sections.—Far exceeds any ordinary directory.

Also T. R. includes a capital or size rating with each product classification listing of a manufacturer—Not so in any other such Guide.

In more than 100,000 instances the T. R. listing of a manufacturer in a product classification, includes specific data about that manufacturer's products. And the 50,000 space advertisements in the product classifications are vastly informative about the products of the manufacturers listed. Widely used by individuals concerned with every phase of purchasing for industry—top management and others, in office and plant—for all Engineering—Research and other production activities.

KIND OF INFORMATION T. R. WILL FURNISH

For every industry, every manufacturer, every product, anywhere in the U. S. A.

VOLUMES 1, 2, 3, 4, 5 and 6

1—Does anyone in Alabama make Cast Iron Pipe?

2—Are Induction Coils manufactured in Wyoming?

3—Who makes Electric Motors in Michigan?

4—Is there a large manufacturer of Rubber Hose in Connecticut?

VOLUME 7

5—Trademark Section.

6—Where are the plants of the Allis-Chalmers Mfg. Co.?

7—Who succeeded the Acme Rubber Mfg. Co.?

8—Where is the home office of the Bristol Brass Corp.?

9—How many products does General Electric make and what are they?

10—Is Novo Pump & Engine Co. a parent company or subsidiary?

11—Where are the branch offices of the Star Expansion Co.?

12—What is the capital rating of the Western Supply Co.?

13—Who are the officials of the Erie Foundry Co.?

14—What is the cable address of Acme Visible Records, Inc.?

15—What companies does Howmet Corp. own or control?

RE: PREVIOUS EDITION — If the new 58th (1968) Edition of THOMAS REGISTER supplants a previous edition in your office:—

The following suggestions for disposition of previous editions have come from subscribers. Many of them find that even a two year old edition of Thomas Register renders far more completely informative service than the current editions of lesser Guides.

And we suggest that you pass your 57th (1967) Edition to:

1—Your Engineering, Production or other Plant Department

2—Your Branch Office or Branch Plant that would use it

3—Local Chamber of Commerce or other Trade Association

4—Local Bank to be left on information counters for use of depositors

5—Public Library for public reference

6—Or, if you wish to sell your complete six-volume 57th (1967) Edition, in good condition, notify our authorized distributor of one-year old copies: Publishers Distribution Service, P. O. Box 23, Springfield, N. J. 07081.

If unable to locate a source of supply in this Edition, write to our Product Inquiry Service Department:

THOMAS PUBLISHING COMPANY, 461 8th Ave., New York, N. Y. 10001

LOCAL THOMAS OFFICES

CALIFORNIA 90057, LOS ANGELES
2708 W. 3rd St., Phone (213) 382-4499

CALIFORNIA 94104, SAN FRANCISCO
562 Market St., Phone (415) 397-2907

CONNECTICUT 06413, CLINTON
99 W. Main St., Phone (203) 669-8181

ILLINOIS 60606, CHICAGO
201 N. Wells St., Phone (312) 332-2061

INDIANA 46220, INDIANAPOLIS
1111 E. 54th St., Phone (317) 251-5451

KANSAS 66044, LAWRENCE
2118 Massachusetts St., Phone (913) 842-1127

MASSACHUSETTS 02108, BOSTON
50 Beacon St., Phone (617) 523-4588

MICHIGAN 49003, KALAMAZOO
P. O. Box 2817, Phone (616) 327-6348

MICHIGAN 48075, SOUTHFIELD
26138 Telegraph Rd., Phone (313) 357-0500

MINNESOTA 55401, MINNEAPOLIS
Midland Bank Bldg., Phone (612) 332-3548

MISSOURI 63124, ST. LOUIS
9447 Louwen Dr., Phone (314) 993-0034

NEW JERSEY 07081, SPRINGFIELD
130 Mountain Ave., (201) 379-1616

NEW YORK 14214, BUFFALO
43 East Northrup, Phone (716) 832-1600 or 836-6090

NEW YORK 13206, SYRACUSE
1527 Teall Avenue, Phone (315) 437-4523

OHIO 45230, CINCINNATI
7310 Kenwood Road, Phone (513) 791-3967

OHIO 44115, CLEVELAND
460 Hanna Bldg., Phone (216) 241-8850-51

OHIO 43623, TOLEDO
4553 Imperial Drive, Phone (419) 882-9841

PENNSYLVANIA 15237, PITTSBURGH
7807 McKnight Rd., Phone (412) 931-2811-12

PENNSYLVANIA 19082, UPPER DARBY
Long Lane & Bradford Rd., Phone (215) 528-8500

RHODE ISLAND 02915, RIVERSIDE
4 Florence St., Phone (401) 433-1983

TEXAS 77018, HOUSTON
1435 Martin Dr., Phone (713) 682-7520

WASHINGTON 98105, SEATTLE
2012 N. E. Ravenna Blvd., Phone (206) 682-0393

WISCONSIN 53122, ELM GROVE
P. O. Box 517, Phone (414) 771-0688

Figure 2. Preliminary page of Thomas Register

TO GET FULL VALUE FROM T. R.

for all your individuals concerned with every phase of purchasing for industry—for top management in office and plant—for all Production—Engineering—Research, and other individuals requiring segregated lists of U. S. Manufacturers of any product, for survey of sources—for Investigation—Specifying—Purchase—or for other production purpose.

All Your Individuals

Executives
Purchasing Dept.
Research Depts.
Superintendents
Engineering Depts.
Laboratories
Production Mgrs.
All Dept. Heads

PLEASE NOTE

15 minutes' attention may repeatedly repay 1000% or more . . . Probably all not aware of all the important informative and exclusive 1968 Thomas Register Service.

THOMAS REGISTER

U. S. NATIONAL PURCHASING ENCYCLOPEDIA

Now serving 100,000+ Purchasing Men in 35,000 industrial and other organizations—Now 58th—(1968)—annual edition reaches a new high in its long time record for efficiency in meeting "Where to Buy"—(Source of Supply)—problems . . . per the "Three Basic Essentials."

VASTLY MORE THAN A DIRECTORY...

T. R. gives extensive data about makers and their products that effectively assist in finding best sources for exactly what is wanted —See adjacent column.

a *Completely lists all Manufacturers classified by product—the alphabetical Quick Finding Product Classification Index has 80,000 page number references to T. R. Product Sections—Far exceeds any other such Guide.*

b *Also T. R. includes a capital or size rating with each product classification listing of a manufacturer—Not so in any other such Guide.*

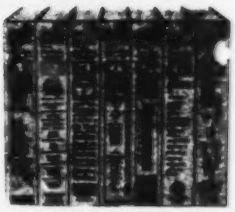
c *In more than 100,000 instances, the T. R. listing of a manufacturer in a product classification, includes specific data about that manufacturer's product . . . (Mostly T. R. only). (See illustration adjacent column.)*

d *And the 49,000 space advertisements in the product classifications are vastly informative about the products of the manufacturers listed.*

T. R.'s 11,000 pages include substantially all the "Where to Buy" direction in all other such Guides, and IN ADDITION in connection with listings

. . . A total of 5,000+ Pages of Product Descriptions and Data Wanted by Buyers, But Not Available in Any Other Such Guide

Thomas Publishing Co., 461 8th Ave., New York, N. Y. 10001
Representatives in Principal Cities, see Volume VII



T. R. WILL FURNISH INFORMATION
for Every Industry, Every Manufacturer —Every Product

Vols. I, II, III, IV, V, VI—9504 Pages

1—WHO MAKES SHOT ABRASIVES or any kind of any product from A to Z.

2—LIST OF THE MANUFACTURERS OF THE ENTIRE U. S.—Compiled alphabetically by state and locality.

3—THE MANUFACTURERS IN OHIO —The manufacturers in any section.

4—ALL MANUFACTURERS RATED $50,000 OR MORE CAPITAL—Manufacturers of any desired capital.

Vol. VII and Index—1900 pages

5—LIST OF GENERAL ELECTRIC'S PRODUCTS — or for any other Manufacturer.

6—WHO MAKES "ARASTRIP" GLUE? —Shows who makes any trade mark or special brand.

7—WHERE ARE PLANTS OF ENGELHARD INDUSTRIES INC.? (Same for all manufacturers.)

8—WHO SUCCEEDED AMERICAN CARBON PAPER MFG. CO.?

9—WHERE IS THE HOME OFFICE OF ANY MFR. or the nearest branch?

10—WHAT ARE THE SUBSIDIARIES, AFFILIATED OR CONTROLLED CONCERNS OF GENERAL MOTORS or of any concern?

11—IS NORTON-PIKE CO. A SUBSIDIARY OR AFFILIATION?

12—WHERE ARE BRANCHES OF HOWELL ELEC. MOTORS DIV.?

13—WHAT CAPITAL RATING (T. R.) for any concern? (Appears with each listing.)

14—NAMES OF OFFICIALS of any concern. (Given in thousands of instances.)

15—DOES ACHESON COLLOIDS CORPORATION solicit overseas trade? If so, what is the Cable Address? (Same for others.)

Figure 3. Preliminary page of Thomas Register

INSTRUCTIONS FOR USE OF THIS REGISTER

Especially for the Purchasing Activities

TO FIND THE MANUFACTURERS OF ANY ARTICLE

EXAMPLE: To find "Marine Doors," turn directly to "Doors" in the Classified Section. All kinds of Doors are in one section in the proper alphabetical place under D. The same NOUN or main name arrangement is followed throughout.

Under each Product Classification the names of Manufacturers are arranged ALPHABETICALLY; first by States, second by cities and towns; third by name of Manufacturer.

NAMES IN BOLD FACE TYPE pay for this prominence, thus indicating that they are especially interested in your inquiries.

Note explanation of Special ★ Classifications.

ANOTHER METHOD: Look in Index to Contents (Vol. VIII) for the article desired. Example: to find "MARINE DOORS," look in Index under M for Marine. All Marine items will be listed and the page shown where each list appears.

NAMES THAT ARE NOT MANUFACTURERS are usually followed by designation such as (*), (Job.), (Imp.), (Exp.). For more detailed explanation, see page Facing Title.

"(S. P.)" after a name indicates that the concern so marked has adopted one or more of the industries **Simplified Practice Recommendations** as issued by the U. S. Department of Commerce. Only names reported by the Department are so marked.

Lo. or Loc. following a name indicates that the business is largely local.

"★" CLASSIFICATIONS—Classifications preceded by ★ are duplicate classifications—said article or product being classified under another name, to which reference is usually made, and under which the complete list of manufacturers will be found. The bold face listings of names under "★" classifications are duplicate listings in the nature of advertising and limited to advertisers.

DO NOT LOOK FOR INDEFINITE HEADINGS such as "Goods," "Supplies," etc. If Carpenters' Tools are wanted, look in index under "Carpenters" and it will refer to the specific names of the articles. If Electrical Goods or Supplies are wanted, look in index under "Electric" and note the reference to various specific articles, etc., etc.

TO FIND AN ADDRESS WHEN YOU KNOW THE NAME BUT NOT THE ADDRESS, use the "A-Z" Section—Vol. VII.
Manufacturers who are marked "Ex." solicit foreign business. "Ca." indicates Cable address.

TO FIND BRANCH OFFICES, see "A-Z" Section—Vol. VII.

TO FIND SUBSIDIARIES, AFFILIATED, CONTROLLED OR SUCCEEDING CONCERNS, see explanation, 1st page "A-Z" Section—Volume VII.

TO FIND THE MANUFACTURER OF A SPECIAL TRADEMARK or brand of any article, look for the Trademark desired in the alphabetical list, pink pages, Vol. VII. (See note on first page of Trademark Section.)

A-Z Section

Names of important manufacturers with addresses, business and various other information—All in one list, alphabetically arranged, without duplication of names.

See full explanation, Page 1, Vol. VII.

ADDENDA—Product classifications, A-Z information, etc., which were received too late to process in individual product classifications due to closing schedules, are included in Addenda Section in the volumes in which the product would be entered when possible.

ADDENDA—Volumes I, II, III, IV, V & VI Product Classifications, see cover. Vol. VII—A-Z Addenda from A to Z.

The Capital (Total Assets) Classifications

The rating code letters following each name indicate our estimate of approximate minimum total tangible assets as follows:

AAAA over	$1,000,000	B over	$50,000	F over	$2,500
AAA "	500,000	C "	25,000	G "	1,000
AA "	300,000	D "	10,000	H "	500
A "	100,000	E "	5,000	X—No estimate, see * below	

Example:
BLANK MFG. CO., Anywhere, U.S.A. ..... **AA**

NOTE: These assets classifications are not intended to indicate anything whatever in respect to credit. Neither financial liability, nor net worth, nor any other credit determining factor, as such, is considered in arriving at any of these estimates. They always refer to minimum total tangible assets.

***The letter "X" must never be construed to mean anything except "no estimate" which means that the publisher has no information, or recent statement, which the publisher considers satisfactory for estimating the total tangible assets for the name marked "X." Previous estimates changed to "X" in this edition are sometimes in accordance with request of the names so marked, or are due to failure of the name to furnish satisfactory statement for this edition, or otherwise to lack of information that the publisher considers satisfactory for estimating.**

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THOMAS PUBLISHING COMPANY, 461 Eighth Avenue, New York, N. Y. 10001

PRICE $30.00/SET INCLUDING TRANSPORTATION COSTS WITHIN THE U. S. OTHER RATES ON REQUEST

Figure 4. Preliminary page of Thomas Register

EXPLANATION

The "A-Z" Index to American Manufacturers

HOME AND BRANCH OFFICES AND OTHER DATA

An alphabetically arranged list of all important manufacturers showing home offices, branch offices, subsidiaries, successors, and other data. Names of individual officers are shown for those who advertise.

☞ LOOK FOR THE NAME YOU INQUIRE ABOUT IN ITS ALPHABETICAL PLACE—The information you want follows the name, as explained below:—

SUBSIDIARIES, AFFILIATIONS, ETC.

S—The names that follow the S are subsidiaries of, or affiliated with, or controlled by the concern that precedes the S.

ILLUSTRATION—Under letter T.
Thomas Publishing Co. (S—American Directory Co.)

This would indicate that Thomas Publishing Co. has an affiliated or subsidiary company—i.e.—The American Directory Co.

A—(or "Sub. of——")—The concern preceding the (A) is affiliated with, subsidiary of, or controlled by the concern that follows the (A).

ILLUSTRATION—Under letter A.
American Directory Co. (A) Thomas Publishing Co.)

This would indicate that American Directory Co. is affiliated with Thomas Publishing Co. In many instances, subsidiaries, etc., are indicated by (Sub. of ——).

CABLE ADDRESSES, ETC.

Manufacturers who are marked "Ex." or "Exp." solicit foreign business. "Co." indicates Cable Address.

Where no city is named after "Ca.", the cables should be sent to same address as given for the concern. Where "Ca." is followed by name of city, cables should be sent to city named.

Users of this Register must keep in mind the fact that numerous changes are constantly occurring in data of this kind, and linotype lines are liable to misplacement; errors are possible in respect to any name in the list, hence it must not be used for any purpose wherein errors might cause loss to either the user or the names listed.

☞ SEE ADDITIONAL NAMES AND LATE CHANGES IN "ADDENDA" AT END OF THIS SECTION.

INFORMATION FURNISHED BY THIS "A-Z" SECTION

Where is the home office, or nearest branch of Abbott Laboratories?
This information follows the name.

Who succeeded Lancaster Brush Co.?
This information follows the name in the form of "(83)—see ——." The (83) means change made in 83rd Ed.—(86)—86th Ed., etc., etc.

Does the Acme Electric Corp. solicit export trade? If so, what is their cable address?
See "Ex." and "Ca." Explanation.

What concerns are subsidiaries of, or affiliated with, General Motors Corp.?
See "S" Explanation.

Is U. S. Steel Supply Company a subsidiary, controlled or affiliated concern? If so, who controls it?
See "A" Explanation.

Additional Information

We aim to keep the office records of this Register up to date, and we will be glad, whenever possible to supply subscribers additional information, and changes that occur subsequent to date of publication, or addresses of names not included herein.

The Capital (Total Assets) Classifications

The rating code letters following each name indicate our estimate of approximate minimum total tangible assets as follows:

AAAA over	$1,000,000	B over	$50,000	F over	$2,500
AAA "	500,000	C "	25,000	G "	1,000
AA "	300,000	D "	10,000	H "	500
A "	100,000	E "	5,000	X—No estimate, see * below	

Example:
BLANK MFG. CO., Anywhere, U. S. A. ..... AA

NOTE: These assets classifications are not intended to indicate anything whatever in respect to credit. Neither financial liability, net worth, nor any other credit determining factor, as such, is considered in arriving at any of these estimates. They always refer to minimum total tangible assets.

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A

"A" Brass Foundry, 2002 E. Vernon Ave. (Vernon), Los Angeles, Calif....X
A-Coating Service Co. (A Clearlite Products) (Plastic-Protective Dip Coating), 819-820 N. Franklin, Chicago, Ill. ..... B
A Craft Enterprise Inc (Metal Spinning, Welding & Brazing), 3 Louise, Binghamton, N. Y. ..... A

"A" DIV. OF AAAAAA ACE PAPER BOX CORP., 1727 Gerritsen Ave., Brooklyn, N. Y. (Phone: 226-7490—Area Code 212) AAAA
(Manufacturers and Designers of All Types of Folding and Set-Up Boxes, Mailing Devices and Mailing Tubes)
(A A. Fleisig Sons)

"A", DIV. U. S. BOX CO., 71 Metropolitan Ave., Brooklyn, N. Y. 11211 ..... AAA
(Mfrs. of Stock and Custom Boxes. Mailers, Set-Up, Folding, Plastic, Acetate, Tubes)

A-Economy Scrap Co. (Paper & Metal Scrap), 83 Livingston, Newark, N. J.

A-GUILD PAPER PRODUCTS CO., 1154-A Intervale Ave., New York, N. Y. 10459 ..... AA
(Mfrs. of Bags and Envelopes for Every Purpose, Plain or Printed, Transparent, Polyethylene, Paper, Cellophane, Plastic; Packaging Specialists; Shopping Bags)

A-OK Industries Inc. (Machine Work General Contract), Reeseville, Wis...X
" Pak Co (Custom Packaging), 4732 Spring Grove Ave., Cincinnati, Ohio X

A-One Kotsin Co. (Finishing Specialties), 4801 W. Jefferson, Los Angeles, Calif. ..... A

A Punch Products Mfg. Co. (Die Cutting, Gaskets, Shims, etc.), 516 S. Kolmar Ave., Chicago, Ill. ..... B

AA Automation Associates of New York, Inc. (Gluing, Bag Filling, Labelling, Special Machinery), 125 W. 40th St., New York, N. Y...X

A A COIL PRODUCTS, 6834 South Chicago Ave., Chicago, Ill. 60637 (Phone: BUtterfield 8-6151—Area Code 312) ..... B
(Springs for Every Mechanical Need; Any Type, Any Quantity—Square, Round and Flat; Brass, Bronze and Aluminum Rings, Wire Forms and Stampings)
(P.) Modeste Lisen; (S.) Eugene Lisen.

A-A Engineering Co. (B—Standard Precision Div.), 10020 Miller Way, South Gate, Calif. X

AA GAGE DIV., U. S. INDUSTRIES, INC., 352 Fair St., Detroit, Mich. 48220 (Phone: 548-3810—Area Code 313) AAAA
(Fine Precision Standard Gaging Components [Ind. Sweep Gages—Indicator Depth Gages—Internal, External Multi Gages—Precision Centers]. "Ultradex" Precision Index Tables [¼ Arc Second Accuracy]. "Ultraron" Precision Rotary Tables [6" to 48" Dia.]. Precision Master Balls. "Ultrachuck" Precision Chucking [Magnetic Cylinder sq] Design—Design and Build—Build. "Absolute Acuracy" Our Creed)
(A U. S. Industries, Inc.)
(Ex., Ca. "Angage") (Chmn. of Bd.) B. W. Schabot; (P.) Neil B. Michie; (Exec. V. P.) N. G. Miller.

A A Laundry Machy. Co., 1112 S. Kedzie Ave., Chicago, Ill. ..... B
" Septic Tank Co., 2240 W. 10 Court, Hialeah, Fla. ..... A
" Textile Wiper Co. (Wiping Rags, etc.), 187-T Chestnut St., Newark, N. J. ..... A
" Wire Products Co. (S—Blok-Lok of Texas, Inc.; Blok-Lok, Ltd.) (Wire Spacers & Wall Ties), 716 E. 61st, Chicago, Ill. (Ca. "Aawpco") ..... A

AAA AIRCRAFT SUPPLY INC., Bldg 203, Bradley International Airport, Windsor Locks, Conn. 06096 (Phone: 623-2541—Area Code 203) ..... B
(AN & MS Fittings, Screws, Fasteners, Washers, Nuts, Bolts; AN & MS Parts DISTRIBUTORS)
(P.) Joseph F. Gleason.

Figure 5. Preliminary page of Thomas Register

☛ *Please Preserve Carefully . . . Do Not Mislay*

PRODUCT INDEX—FINDING GUIDE

TO CONTENTS VOLS. I, II, III, IV, V, VI, VII
AND INDEX TO ADVERTISERS

58th EDITION, 1968

THOMAS REGISTER OF AMERICAN MANUFACTURERS

VOL. I—PRODUCT CLASSIFICATIONS
PAGES 1-1697

VOL. II—PRODUCT CLASSIFICATIONS
PAGES 1697-3264

VOL. III—PRODUCT CLASSIFICATIONS
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VOL. IV—PRODUCT CLASSIFICATIONS
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VOL. VII—A-Z ALPHABETICAL LIST OF MANUFACTURERS — TRADEMARKS — BOARDS OF TRADE & OTHER COMMERCIAL ORGANIZATIONS

INDEX TO ADVERTISERS—END OF THIS VOLUME

WHY THIS INDEX IN SEPARATE VOLUME?

WHY NOT INCLUDED IN VOL. I, II, III, IV, V, VI OR VII

In the past we have had numerous suggestions that the separate Index would be more easily serviceable.

In pursuance of our aim to ascertain the majority preference of our subscribers, and to give them what they want, we made a cross section survey of more than 5000 subscribers.

Approximately 70% voted for the separate volume—we felt obliged to act in accordance with the majority preference, and are confident that 30% who voted otherwise will nevertheless find considerable advantage in the separate volume.

This thin, flat opening Index will be more convenient than if placed in either of the larger volumes, for finding and noting the page numbers for the particular products desired.

And where two or more Departments use the same copy of the Register—(located in Library or elsewhere)—each Department could have its own copy of the Index at nominal cost noted below.

THERE IS A POSSIBLE DISADVANTAGE in the possibility of the thin Index Volume being mislaid or lost. We would caution our subscribers to guard against this. However, in such case there is good possibility of its being replaced.

ADDITIONAL COPIES OF THIS INDEX

If and when subscribers **assure us** that this Index has been inadvertently mislaid or lost, we will supply replacement free of charge, provided we have any available at the time of request.

When the foregoing reason for replacement is not applicable but **additional** copy or copies are wanted for Department use, we will furnish at cost—$2.00 per copy—as long as supply is available.

THOMAS PUBLISHING CO., 461 8th Ave., NEW YORK, N. Y. 10001

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1-H

I

Figure 6. Preliminary page of Thomas Register

Question

A patron in your library says that he would like to know the names of companies other than Bethlehem Steel who manufacturer carbon steel and export it. Using TR*, how could you obtain this information? Select the answer that seems correct and turn to the page on which the number beside it appears.

13. by using the product classification section

14. by using the index to the contents

15. either

*Hereafter we shall use TR for Thomas Register of American Manufacturers.

Your answer is that you would find the names of companies other than the Bethlehem Steel Corporation that manufacture carbon steel by using the product classification section. This is not incorrect, but it is not the only choice. To find carbon steel, you would turn to "Steel" in the classified section. All kinds of steel are in one section in the proper alphabetical place under "S". However, this is not the only way to find the manufacturers of an article. Turn back to page 12 and select an answer that will be more complete.

Your answer is that you would use the index to the contents of TR to find the names of manufacturers of carbon steel. This is not incorrect, but it is not the only choice. If you look in the index under "C" for carbon, it will refer you to the page number on which you will find the list. However, this is not the only way to find the manufacturer of an article when using TR. Turn back to page 12 and select an answer that will be more complete.

Your answer is that you could use either the product classification section or the index to the contents to find a listing of companies other than the Bethlehem Steel Corporation that manufacture carbon steel and export it. You are correct. In the product classification section, product listings are arranged from A to Z according to noun names of the products; that is, all kinds of steel are in the proper alphabetical place under "S". Turn to Figure 7 (p. 7901) on the next page. Note the listings under Steel Carbon. Import-export information is included in parentheses after the street address of the company. You may also obtain the information by looking in the index under "C" for carbon. Turn to Figure 8 (p. 38 of the index); note that it refers you to p. 7901 in the product classification section. Then turn back to this page and go on to the question below.

Question

The patron now asks for the names of companies in Kentucky that manufacture carbon vanadium steel. Study Figure 7 and then select the correct answer. Turn to the page containing that number.

18. Green River Steel Corporation

19. Jessop Steel Company

20. No company in Kentucky manufactures carbon vanadium steel.

(Steel Buildings—Con.)

W VA: PARKERSBURGH
WALKER/PARKERSBURG DIV OF TEXTRON INC 622 Depot.....AAAA

STEEL: BULLET CORE

OHIO: MASSILLON
EATON YALE & TOWNE INC RELIANCE DIV 25 (T) Charles Av S E.....AAAA
(See our corporate product directory in Vol. VII.)
PA: PITTSBURGH
Crucible Steel Company Dept TR-12 Box 88 AAAA

*STEEL: BUMPER

(see Other Classifications Specifying Appropriate Kinds)
OHIO: CLEVELAND
REPUBLIC STEEL CORP 1441-T Republic Bldg.....AAAA
PA: PITTSBURGH
JONES & LAUGHLIN STEEL CORP 462 Gateway Center.....AAAA

STEEL: CALORIZED

PA: PITTSBURGH
Calloy Co 407 Hill Av .....AAA
PA: TARENTUM
ALON PROCESSING INC Grantham St.....X

STEEL: CARBON

CALIF: OAKLAND
Kaiser Steel Corp 2379 Kaiser Center....AAAA
COLO: DENVER
Midwest Steel & Iron Works Co 25 Larimer (Warehouse) .....AAAA
CONN: WALLINGFORD
Ulbrich Stainless Steels & Special Metals Inc 1010 Old Colony Rd (Stainless Strip 17-7PH) AAAA
DEL: CLAYMONT
Phoenix Steel Corp.....AAAA
DEL: EAST WILMINGTON
Delaware Tool Steel Corp.....AAA
GA: ATLANTA
Tull J M Metals Co Inc 290 Marietta NW • AAAA
ILL: CHICAGO
Apollo Metals Inc 6804 S Oak Park Av (Sheets & Coils Polished to Plating Quality)....AAA
Finkl A & Sons Co 2013 Southport Av....AAAA
Gordon-Burke Steel Co 2400 S Ashland.....A
Interlake Steel Corp 135th & Perry Av Dept TR .....AAAA
International Harvester Co Wisconsin Steel Div 180 N Michigan Av (Bar Mill Products, Rounds & Squares, Hexagons, Flats, Bar Size Angles, Spring Steel, Special Sections) AAAA
LA SALLE STEEL CO P O Box 6800-A Dept T-12 (Cold Finished Bars).....AAAA
MAPES & SPROWL STEEL CORP 3404 N Avondale Av.....X
Ryerson Jos T & Son Inc Box 8000-A (also Boston, Buffalo, Charlotte, Cincinnati, Cleveland, Dallas, Detroit, Houston, Indianapolis, Los Angeles, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, Seattle, Spokane, Wallingford) AAAA

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RYERSON

Siegel Steel Co 3715 S Kedzie Av.....AAA
U S STEEL SUPPLY DIV UNITED STATES STEEL CORP 13535 S Torrence Av Dept T (Warehouses at: Baltimore, Birmingham, Boston, Chicago, Cleveland, Dallas, St. Louis, Memphis, Milwaukee, Moline, Ill., Newark, Philadelphia, Pittsburgh, Portland, Ore., St. Paul, Seattle, Los Angeles, San Francisco, Phoenix, Hartford, Kansas City, Houston, Indianapolis).....AAAA
Ziv Steel & Wire Co 2940-52 W Harrison (Tool & Die) .....A
N J: ENGLEWOOD
Prosser Thomas & Son 304 Lydecker (Imp. & Exp.) .....AA
N J: FAIR LAWN
SANDVIK STEEL INC 1704 Nevins Rd..AAAA
N J: HARRISON
Harris & Sons Steel Co Inc 1000-T S 4th AAAA
N J: KENILWORTH
Allied Steel Products Corp 100 N 8th (Warehouse) .....AA
Milne A & Co Inc (Tool).....AA
N J: LYNDHURST
BENEDICT-MILLER INC foot of Marin Av.AA
Purdy A R Co Div of National Steel Corp Orient Way & Page Av (No. 1095) ....AAAA
N J: NEWARK
Eastern Metals Corp 81 Lockwood (Dist.)...AA
N J: PENNSAUKEN
Precision Drawn Steel Co 3900 River Rd (Cold Drawn) .....AAAA
N J: UNION
Liberty Steel Co 1072 Morris Av (Sheets & Coils) X
Union Steel Corp Strip Div 2244 Stanley Terrace .....AA
N J: WEST CALDWELL
FAGESTRA STEELS INC Clinton Rd (Tool).X
N Y: BROOKLYN
Smith David Steel Co Inc 46th & 2nd Av (Dist.) .....AAAA
N Y: FLUSHING
Sherman Industries American Silver Co Div 36-05 Prince (Strip Thin Gauge & Foil)..AA
N Y: JERICHO L I
Erie Steel Co Inc 37-02 48th.....AA
K & S METAL SUPPLY INC 48-18 Northern Blvd.....AAAA
MERIDIAN STEEL CO INC 50 Jericho Tpke.X
N Y: NEW YORK CITY
Atlantic Steel Corp General Motors Bldg.AAAA
Empire Steel Trading Co Inc 80 Wall (Imp. & Exp.) .....AAA
FABRITE METAL CORP 205 E 42nd (Spring, Tool & Special Finishes, in Strip, Wire & Shapes).....AA
FIRTH CLEVELAND STEELS INC 232 Park Av.....AAAA
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INTERNATIONAL SELLING CORP Dept T 220 E 42nd.....AA

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Lehigh Steel Corp Bethune & Greenwich Sts AAAA
Liberty Steel & Metals Corp Time & Life Bldg Rockefeller Center.....X
Paquet M & Co 15-19 Battery Pl*.....A
UNIT STEEL CORP 51-A Chambers (Tool Steel).....X
N Y: NORTH TONAWANDA
Roblin Steel Corp 1001 East Av.....AAAA
N Y: ROME
ROME STRIP STEEL CO INC Henry & Hinman Sts (Cold Rolled Strip).....AA
OHIO: BEDFORD
MILLS-WOLF STEEL CO 6 Interstate Rd Carbon Moly, ASTE & ASTM).....B
OHIO: CANTON
TIMKEN ROLLER BEARING CO THE STEEL & TUBE DIV (Seamless Tubing) AAAA
OHIO: CLEVELAND
American Tank Fabricating Co 12312 Elmwood Av.....AAA
REPUBLIC STEEL CORP 1441-T Republic Bldg.....AAAA
UNIVERSAL GRINDING CORP 2198 Scranton at Train (Bar-Turned, Ground & Polished).....A
Universal Steel Co The 6602 Grant Av.....X
OHIO: MIDDLETOWN
ARMCO STEEL CORPORATION 1939 Armco

STEEL: CASE HARDENING

PA: PITTSBURGH
ALLEGHENY LUDLUM STEEL CORP Dept TR Oliver Bldg (Tool).....AAAA
(Chrome and chrome nickel stainless steels; tool, carbon, electrical, valve, nitriding steels, in all necessary forms and shapes. Special analysis steel for any requirement.)
COLUMBIA-SUMMERILL 21 Woodkirk (Steel Bars).....AAAA
Crucible Steel Company Dept TR-12 Box 88 AAAA
Follansbee Metals Co P O Box 1799.....AAAA
JONES & LAUGHLIN STEEL CORP 462 Gateway Center.....AAAA
LEVINSON STEEL CO THE Levinson Bldg AAAA
Pittsburgh Steel Co 1670 Grant Bldg.....AAAA
Stanton Steel Corp Nixon Rd Allegheny Industrial District (Whse.) X
United States Steel Corp 525 William Penn Pl AAAA
Wyckoff Steel Div 1300 Porter Bldg (Bars & Shapes, Cold Drawn & Cold Finished) AAAA
PA: READING
Carpenter Cteel Co 150 W Bern (Tool, etc.) AAAA
PA: ROYERSFORD
CANN & SAUL STEEL CO 4th & Spruce Sts (Forgings).....AAAA
PA: SHARON
Sharon Steel Corp Drawer 537.....AAAA
PA: VERONA
UNION SPECIALTY STEEL CASTING CORP Jones St.....AAAA
PA: WASHINGTON
JESSOP STEEL CO 535 Green (Tool).....AAA
(Selected and graded tempers for every purpose.)
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Knoxville Iron Co Lonsdale & Van Sts..AAAA
TEXAS: LONGVIEW
Le Tourneau R G Inc 4014 S MacArthur.AAAA
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ILL: CHICAGO
Kinkl A & Sons Co 2013 Southport Av.AAAA
ILL: CHICAGO HEIGHTS
Columbia Tool Steel Co 500 Lincoln Hwy.AAAA
KY: OWENSBORO
Green River Steel Corp .....AAAA
N J: LYNDHURST
Benedict-Miller Inc foot of Marin Av....AAA
N Y: CARLE PLACE L I
Albraco Metals Corp 219 Westbury Av.....A
N Y: COLLEGE POINT
Advanced Alloys Inc 15-45 130th.....A
N Y: NEW YORK CITY
Milne A & Co Inc 69 W 44th.....AA
OHIO: CLEVELAND
REPUBLIC STEEL CORP 1441-T Republic Bldg.....AAAA
OHIO: WARREN
Copperweld Steel Co Aristoloy Steel Div 4039 Mahoning Av .....AAAA
PA: BETHLEHEM
Bethlehem Steel Corp .....AAAA
PA: BRAEBURN
Braeburn Alloy Steel Div Continental Copper & Steel Indus Inc .....AAAA
PA: CORRY
McINNES STEEL CO 3441 E Main.....AAAA
PA: ERIE
Erie Forge & Steel Corp 1300 W 16th.....AAAA
PA: LATROBE
LATROBE STEEL CO 2126 Ligonier (Drill Rod & Tool).....AAAA
VASCO (FORMERLY VANADIUM-ALLOYS

International Harvester Co Wisconsin Steel Div 180 N Michigan Av (Bar Mill Products, Rounds & Squares, Hexagons, Flats, Bar Size Angles, Spring Steel, Special Sections) AAAA

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ILL: DESPLAINES

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ILL: EVANSTON

Gordon-Burke Steel Co 2102 Greenwood.....A

ILL: FRANKLIN PARK

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Wolff Benjamin & Co 11307 Franklin Av.....AA

ILL: HARVEY

Bliss & Laughlin Steel Co 283 E 155th (Bras, Cold Finished Only).....AAAA

ILL: PARK RIDGE

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KY: OWENSBORO

Green River Steel Corp.....AAAA

MD: CUMBERLAND

Cumberland Steel Co 100 William (Turned & Ground) .....AAA

MASS: FITCHBURG

Simonds Saw and Steel Div Wallace-Murray Corp 510 Safety Fund Bank Bld, (Low Carbon, Precision Ground) .....AAAA

MASS: RANDOLPH

WARD STEEL CO Randolph Industrial Park (High Carbon & Low-Carbon).....AAAA

MICH: DETROIT

DETROIT FLAME HARDENING CO 17644 Mt Elliott Av .....AA

MO: ST LOUIS

Laclede Steel Co Arcade Bldg 8th & Olive Sts .....AAAA

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N H: SALEM

Zurbach of N H Willow St.....AAAA

N J: EDISON

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Berry Steel Corp The P O Box 327-T....AAAA

N J: ELIZABETH

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(Instructions, inside front cover)

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UNIT STEEL CORP 51-A Chambers (Tool Steel) X

N Y: NORTH TONAWANDA

Roblin Steel Corp 1001 East Av.....AAAA

N Y: ROME

ROME STRIP STEEL CO INC Henry & Hinman Sts (Cold Rolled Strip).....AA

OHIO: BEDFORD

MILLS-WOLF STEEL CO 6 Interstate Rd Carbon Moly, ASTE & ASTM).....B

OHIO: CANTON

TIMKEN ROLLER BEARING CO THE STEEL & TUBE DIV (Seamless Tubing) AAAA

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(See our insert at Steel Sheets: Zinc Coated.)

OHIO: ORWELL

Champion Steel Co .....AAAA

Orwell Forge & Steel Co .....AAAA

OHIO: WARREN

Copperweld Steel Co Aristoloy Steel Div 4039 Mahoning Av .....AAAA

OHIO: YOUNGSTOWN

FITZSIMONS STEEL CO 1629 Wilson Av.AAAA

YOUNGSTOWN SHEET & TUBE CO 7650 Market (Open Hearth).....AAAA

PA: BETHLEHEM

Bethlehem Steel Corp .....AAAA

PA: COATESVILLE

Lukens Steel Co 1961 Services Bldg (Plates) AAAA

PA: CONSHOHOCKEN

ALAN WOOD STEEL CO Wood Rd.....AAAA

PA: CORRY

Width ½" - 20", Carbon to S.A.E. 1080).AAAA

McINNES STEEL CO 3441 E Main.....AAAA

PA: ERIE

Erie Forge & Steel Corp 1300 W 16th....AAAA

PA: LATROBE

LATROBE STEEL CO 2126 Ligonier (Drill Rod & Tool) .....AAAA

Vasco (Formerly Vanadium-Alloys Steel Co) (Tool) .....AAAA

PA: McKEESPORT

Tygart Steel Products Co Inc David & Walnut Sts (Warehouse) .....AAAA

PA: MONACA

PITTSBURGH TOOL STEEL WIRE CO Pauley St (Cold Finished, Low).....AAA

PA: NEW CASTLE

Blair Strip Steel Co Thomas Bldg (Cold Finished to ⅝" Width ½"-20", Carbon to S.A.E. 1080) .....AAAA

PA: NEW KENSINGTON

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PA: PHILADELPHIA

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Midvale Co Nicetown (Tool, etc.) .....AAAA

PHILADELPHIA STEEL & WIRE CORP Charter Rd .....AAAA

Potts Horace T Co 538 E Erie Av.... ...AAAA

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ILL: CHICAGO

Kinkl A & Sons Co 2013 Southport Av.AAAA

ILL: CHICAGO HEIGHTS

Columbia Tool Steel Co 500 Lincoln Hwy.AAAA

KY: OWENSBORO

Green River Steel Corp .....AAAA

N J: LYNDHURST

Benedict-Miller Inc foot of Marin Av....AAA

N Y: CARLE PLACE L I

Albraco Metals Corp 219 Westbury Av.....A

N Y: COLLEGE POINT

Advanced Alloys Inc 15-45 130th.....A

N Y: NEW YORK CITY

Milne A & Co Inc 69 W 44th.....AA

OHIO: CLEVELAND

REPUBLIC STEEL CORP 1441-T Republic Bldg .....AAAA

OHIO: WARREN

Copperweld Steel Co Aristoloy Steel Div 4039 Mahoning Av .....AAAA

PA: BETHLEHEM

Bethlehem Steel Corp .....AAAA

PA: BRAEBURN

Braeburn Alloy Steel Div Continental Copper & Steel Indus Inc .....AAAA

PA: CORRY

McINNES STEEL CO 3441 E Main.....AAAA

PA: ERIE

Erie Forge & Steel Corp 1300 W 16th.....AAAA

PA: LATROBE

LATROBE STEEL CO 2126 Ligonier (Drill Rod & Tool).....AAAA

VASCO (FORMERLY VANADIUM-ALLOYS STEEL CO) (Tool) .....AAAA

PA: PITTSBUROH

Allegheny Ludlum Steel Corp Oliver Bldg Dept TR-1 .....AAAA

Crucible Steel Company Dept TR-12 Box 88 AAAA

FIRTH STERLING INC 3113 Forbes Av (Tool) .....AAAA

United States Steel Corp 525 William Penn Pl AAAA

PA: READING

Carpenter Steel Co 150 W Bern.....AAAA

PA: SHARON

Sharon Steel Corporation Drawer 537....AAAA

PA: WASHINGTON

JESSOP STEEL COMPANY 538 Green..AAAA

STEEL: CASE HARDENING

ILL: CHICAGO

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MASS: CAMBRIDGE

Wheelock Lovejoy & Co Inc 125 Sidney *.AAAA

N J: LYNDHURST

Benedict-Miller Inc foot of Marin Av....AAA

N Y: BEDFORD HILLS

Messina Inc—Steel Div 146 Railroad Av.....X

N Y: CARLE PLACE L I

Albraco Metals Corp 219 Westbury Av (Tool Steel Grades) .....A

N Y: NEW YORK CITY

Frasse Peter A & Co Inc 19 Grand (Bar, Rod, Tube, Pipe, Sheet, etc.).....AAAA

(Branches & Zip Codes—A-Z Vol. VII)

Figure 7. Thomas Register, Product Classifications, page 7901

CARBON—Con.
" Electrodes, 2510, also look among Electrodes 2510
" Fanfold or Continuous Forms 3094
" Fibre 2807
" Filament Lamps, look among Lamps: Electric Incandescent Standard 4249
" Filaments, look among Filaments: Incandescent Lamp & Radio Tube 2810
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" Granules, 1043, also look among Granules 3506
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" Graphite Parts 5686
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" Machy. 4536
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" Cobalt 1578
" Cobalt, look among Cobalt 1578
" of Copper 1933
" of Creosote, look among Creosote ...2083
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" of Lead, see Lead: Sublimed, 4301; also Lead: White, in Oil, etc. 4302
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" Acid Gas, see Gas: Carbonic 3197
" Acid Gas Compressors 1684
" Acid Gas Condensers, look among Condensers: Gas 1703
" Gas 3197
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" Assistant 1045
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" Compounds 1646
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" Kilns 4142
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" Pots, see Boxes: Car-

CARBOY—Con.
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" Tilters, Inclinators: Carboy, Can, Bottle, Drainers, etc. 3931
" Trucks 8687
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Carburetion Analyzers 158
" Systems 1045
CARBURETORS, all kinds in one list 1046
Carburetor Air Cleaners, look among Cleaners: Air 1445
" Air Washers, see Cleaners: Air 1445
" Cleaners, look among Cleaners: Air 1445
" Controls, see Controls: Dash 1798
" Floats 3008
" Gaskets, look among Gaskets: Automotive 3216
" Heat Insulator Spacers 7584
" & Manifold Heaters.3698
" Replacement Parts .1045
" Springs 7683
" Strainers, look among Strainers: Oil, Gasoline 8002
" Tools, look among Tools: Automotive Repair, etc. 8508
" Tubes 8768
" Valves, see Valves: Needle 9005
" Wire 9353
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CARBURIZING 1046
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" Cabinets, Index 918
" Cases, 1071; also look among Leather Goods 4312
" Chairs, look among Chairs & Stools: Folding 1317
" Cloth Foundations .3102
" Clothing 1507
" Cloths 1498
" Controlled Turnstiles 8868
" Cutters 2101
" Cutting Machinery, look among Machy.: Bookbinders', 4511; also Machy.: Card.4537
" Fasteners, see Fasteners: Paper, 2742; also Holders: Card 3800
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" Boxes 696
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Figure 8. Thomas Register, Index, page 38

Your answer is the Green River Steel Corporation. Correct. Figure 7, page 7901 of the classified product list showed Steel: Carbon Vanadium. Under Kentucky, Owensboro, you found the name of the manufacturer. Turn to the question on page 22.

Your answer is that the Jessop Steel Company of Kentucky manufactures carbon vanadium steel. Wrong. You have no basis for this answer. Study Figure 7; note that under each product classification the names of manufacturers are arranged alphabetically--first by States, second by cities and towns. Return to the question on page 15 and select the correct answer.

Your answer is that no company in Kentucky manufactures carbon vanadium steel. Study Figure 7; note that under each product classification the names of manufacturers are arranged alphabetically--first by States, second by cities and towns. Then, go back to page 15 and make another choice.

No where in this lesson were you referred to this page. Please return to the previous question on page 15 or continue on to page 22.

Question

The patron asks if carbon vanadium steel is Green River Steel Corporation's only product, and he asks what the corporation's approximate capital rating is. Select the best way of finding this information and turn to the page on which the answer is given.

23. Use the A-Z list of manufacturers.

26. Use the index to advertisers.

27. Use the product finding index.

Your answer is that you would use the A-Z list of manufacturers. This is correct. Turn the page to Figure 9 (page 446 of the A-Z list). Note that all products manufactured by the Green River Steel Corporation are listed. Go on to the next question.

Question

After referring to Figures 2 through 6 (if you need to), write the amount of capital assets indicated by the Green River Steel Corporation's AAAA rating in TR. Turn to page 25 to be sure you selected the correct amount, then go on to the question on page 29.

GREAT—Continued

" Western Paint Mfg. Corp., 1207 W. 11th, Kansas City, Mo. (Br. at Fort Smith, Ark. & Chicago, Ill.) ..... AA
" Western Stage Equipment Co. (S—Great Western Textiles), 1324 Grand Ave., Kansas City, Mo. ..... AA
" Western Steel Co .(Steel Jobbers), 2302 W. 58th, Chicago, Ill. (Br. at Milwaukee, Wis.) X
" Western Sugar Co. (S—Western Seed Production Corp.), 1530 16th St., Denver, Colo. (Factories at Brighton, Johnstown, Ovid, Brush, Eaton, Fort Collins, Fort ,Morgan, Greeley, Longmont, Loveland, Sterling & Windsor, Colo.; Bayard, Mitchell, Lyman, Gering & Scottsbluff, Neb.; Billings, Mont.; Lovell & Wheatland, Wyo.) (Ca. "Sugar") ..... AAAA
" Western Textiles (A Great Western Equip. Co.), 1324 Grand Ave., Kansas City, Mo. X
Greater Mountain Chemical Co., Inc. (Metal Cleaning Compounds), 15 Jeremy, Salt Lake City, Utah (Br. at Little Rock, Ark.; Los Angeles, Calif.; Portland, Ore.; Houston, Texas; Seattle & Spokane, Wash.) ..... A
" New York Box Co. (Corrugated Boxes, etc.), 149 Entin Rd., Clifton, N. J. (Br. Plants at West Trenton, N. J.; Brooklyn, Middletown & New York, N. Y. & Philadelphia, Pa.) ..... A
" New York Glass Co., Plastic Div., 43 Ross, Brooklyn, N. Y. ..... A
Greathouse, Glen A., Ph. D. (Analytical & Consulting Chemist), 102 N. Crystal Lake Drive, Orlando, Fla. X

GREAVES MACHINE TOOL CO., 2069 Eastern Ave., Cincinnati, Ohio 45202 (Phone: 751-0730—Area Code 513) ..... AA
(Milling Machines, Metal and Non-Metallic Gears, Reamer Drives, Special Machinery and Contract Machine Work)
(A Fay & Egan Co.)
(Ex., Ca. "Gremateo") (P.) Edward R. Gabriel; (V. P.) William H. Greaves; (S.) John T. Collopy; (T.) Edward Moorhead; (Gen. S. M.) J. W. Stewart; (P. A.) J. Wulfeck.

Greb Co. (Service Tools, Equipment, etc.), Stoughton, Mass. (Ca. "Greb-co") X
Grebe, Hy C., & Co. (Yachts), 3250 N. Washtenaw, Chicago, Ill. ..... AA
Grecian Chemical Co. (S—The Olivo Co.) (Toilet Preps), 2030 E. Willard St., Philadelphia, Pa. ..... B
Greco Mfg. Corp. (S—Central Saw Co.) (Optical Jewelers & Watchmakers' Pliers), 51 16th St., Brooklyn, N. Y. ..... B
Grede Foundries, Inc. (S—Engineering Castings, Inc.) (Grey Iron & Alloy Castings), 1344 S. 1st St., Milwaukee, Wis. (Br. Plants at Elkhart, Ind.; Wichita, Kans.; Iron Mountain, Mich.; Reedsburg, Waukesha & Wauwatosa, Wis.) ..... AAAA
Green, A. P., Refractories Co. (S—Bigelow-Liptak Corp.; Illinois A. P. Green Fire Brick Co.; A. P. Green Fire Brick Co. of Texas; Illinois Clay Products Co.; A. P. Green Fire Brick Co. of Ohio; A. P. Green Fire Brick Co. of Pa.; A. P. Green Fire Brick Co. of Mich.; A. P. Green Fire Brick Co., Ltd. [Canada]; A. P. Green Fire Brick Co. of Wisconsin, Inc.; E. J. Bartells Co.), Green Blvd., Mexico, Mo. (Plants at Kimberly, Ala.; Little Rock, Ark.; Pueblo, Colo.; Macon, Ga.; Troy, Idaho, Granite City & Morris, Ill.; Taylor, Mich.; Mexico, Mo.; Woodbridge, N. J.; Jackson & Oak Hill, Ohio; Climax, Philadelphia & Tarentum, Pa.; Sulphur Springs, Texas; Acton & Toronto, Ont.; Claybank, Sask., Can.) (Ca. "Greenco") ..... AAAA
" Ball Bearing Co., 9803 Harvard Ave., Cleveland, Ohio 44105 ..... AAAA
" Bay Awning & Tent Co. (S—Green Bay Industries), 1106 Main, Green Bay, Wis. C
" Bay Canning Corp., 1425 Main, Green Bay, Wis. 54305 ..... A
" Bay Drop Forge Co., 1341 S. State, Green Bay, Wis. ..... AAA
" Bay Food Co. (A Dean Foods Co.) (S—Budlong Pickle Div.), 889 School Pl., Green Bay, Wis. 54305 ..... AAAA
" Bay Foundry & Machine Works (Sewage Machy., Water Filters, etc.), 401 S. Broadway, Green Bay, Wis. (Ca. "Norscreen") ..... A
" Bay Gear Works, 548 Lawrence, Green Bay, Wis. 54302 C
" Bay Packaging, Inc. (S—Briggs Packaging Corp.; Kalamazoo Container Co.), 831 Doblon, Green Bay, Wis. (Br. at Franklin Park, Ill. & Wausau, Wis.) ..... AAAA
" Bay Paper & Pulp Co. (53—See Green Bay Packaging, Inc.).
" Bay Plastics, Inc. (A Calvis Co.), 1028 N. Ashland Ave., Green Bay, Wis. X
" Bay Soap Co. (E. A. Meyer), 2099 Shawano Ave., Green Bay, Wis. ..... A
" Bay Steel Tube Corporation (Welded Steel Tubing), 1746 S. Broadway, Green Bay, Wis. ..... A
" Bros., Inc. (Steel Rule Dies), 213 Valley St., East Providence, R. I. A
" Chas., Corp. (Sample Cards), 650 Fifth Ave., New York, N. Y. 10011 C
" Chas. E., & Son, Inc. (Paint Brush Ferrules), 96 Passaic, Newark, N. J. 07104 (Br. at Elizabeth, N. J.) ..... AA
" Colonial, Inc. (Oil Burners, Furnaces, etc.), 322 S. W. 3rd, Des Moines, Iowa 50306 (Br. at Rockford, Ill. & Sioux Falls, S. D.) ..... AAAA
" Co. Div., The (A J. H. Dunning Corp.) (Wooden Boxes, Box Shooks), Bellows Falls, Vt. 05101 ..... AAAA
" Co., Inc., The (A J. H. Dunning Corp.) (Wooden Boxes, Box Shooks), 1958 Post Rd., Darien, Conn. (Factory at Bellows Falls, Vt.)

GREEN RIVER STEEL CORP., Owensboro, Ky. ..... A
(Ingots, Billets, Slabs and Bars in Alloy, Carbon and Stainless Steels; Vacuum Degassing)
(A Jessop Steel Co., Washington, Pa.)
(For District Sales Offices, see list under Jessop Steel Co.) (Chmn. of Bd.) Frank B. Rackley; (P.) J. R. Connell; (V. P. & T.) Frank W. Martin; (Controller) O. D. Hazelrigg; (V. P. Operations) David Lewis; (S. M.) George H. Chubb, Jr.; (P.) George W. Mawhinney.

" Shoe Mfg. Co. (S—Weber Shoe Co.), 960 Harrison Ave. (Roxbury) Boston, Mass. .....
Thos. L., & Co. (Bakers' Machy.), 202 N. Miley Ave., Indianapolis Ind. (Ca. "Greenco") .....

GREENBACK INDUSTRIES, INC., 2527 W. Maple at Cranbrook, Birmingham, Mich. (Phone: 646-3300—Area Code 313) .....
(Mfrs. of Non-Ferrous Metal Powders)
(Plant at Greenback, Tenn.) (P. & S. M.) Earl Lowe; (V. P. & G. M.) Harold Forton; (S. & T.) C. Sutton.

Greenberg Engineering Co. (Metallurgic Engines), 209 Rock Hill & Bala Cynwyd, Pa. (Ca. "Elmgren") .....
" Manuel A. (Structural Steel Engineers, Fabricators & Erectors) Lewis Tower Bldg., Philadelphia, Pa. .....
Greenberg's, M., Sons (S—Josam Pacific Co.) (Fire Hydrants & Fire Protection Connections), 767 Folsom at Alice, San Francisco, Ca. (Exp.) .....

GREENBRIER INSTRUMENTS—See Bendix Scientific Instruments Vacuum Div., Greenbrier Plant.

Greene, Arnold, Testing Lab. Inc. (A Jem Penetrameter Mfg. Corp.) Natick, Mass. .....
" Bros. Lumber Co., Elizabethtown, N. C. .....
" Electronics, Inc. (Printed Circuits & Assemblies), 1842 Cranston St., Cranston, R. I. .....

GREENE

GREENE, G. G., INCORPORATED, Greene Road, Warren, Pa. (Phone: 723-5700—Area Code 814) .....
(Manufacturers of Metal Specialties. Stampings, Wire Forms, Cold Headed Parts, Hardware Items, Plastic Injection Molded Parts, and Wood Components. Also Suppliers of Complete Assemblies)

GREENE, J-R, ASSOCIATES, INC., 25-T Amity St., Little Falls, N. J. 07424 (Phone: 256-8789—Area Code 201) .....
(Designers and Builders of Specialized Automated Machinery and Equipment for Gas Fired Drying Systems)
(Exp.) (P.) Robert Greene; (V. P.) John Greene; (S. & T.) A. V. Greene.

" L. Charlton, Mfg. Co. (Photographs), Chelmsford, Mass. .....
" Line Mfg. Corp. (S—Marion Eng'g Prod.) (Paper Working Machinery), Marion, Ind. .....
" M. J., Co. (S—Bollinger Corp.), 109 Smithfield, Pittsburgh, Pa. .....
" Machine Co. (Machine Knives), Bradley & Gordon Sts., Watertown, N. Y. .....
" Mfg. Co. (Gaskets; Sponge Rubber Products; Linings), 7111 Jane St., Philadelphia, Pa. .....
" Mfg. Co. (Roll Forming, Stamping, Plating, etc.), 1026 Douglas Ave., Racine, Wis. 53401 .....
" Mfg. Corp. (Plastic Containers, Vials, etc.), 40 Washington St., West Orange, N. J. 07052 .....
" Metal Products Inc. (Plastic Window Repair Material), 1000 Grove Ave., Evanston, Ill. 60204 .....
" Plastics Corp., Hope Valley, R. I. .....
" Products Co., Inc. (S—Lull-A-Babe, Inc.), 370 7th Ave., New York N. Y. .....
" Ray, & Co., Inc. (Boats), 510 S. Byrne Rd., Toledo, Ohio .....
" Rubber Co. (A Penn Machine Cutting Co.), 99 Broadway, Cambridge, Mass. .....

Pueblo, Colo.; Macon, Ga.; Troy, Idaho, Granite City & Morris, Ill.; Taylor, Mich.; Mexico, Mo.; Woodbridge, N. J.; Jackson & Oak Hill, Ohio; Climax, Philadelphia & Tarentum, Pa.; Sulphur Springs, Texas; Acton & Toronto, Ont.; Claybank, Sask., Can.)

" Ball Bearing Co., 9803 Harvard Ave., Cleveland, Ohio 44105.....AAAA

" Bay Awning & Tent Co. (S—Green Bay Industries), 1106 Main, Green Bay, Wis. C

" Bay Canning Corp., 1425 Main, Green Bay, Wis. 54305.....A

" Bay Drop Forge Co., 1341 S. State, Green Bay, Wis.....AAA

" Bay Food Co. (A Dean Foods Co.) (S—Budlong Pickle Div.), 889 School Pl., Green Bay, Wis. 54305 .....AAAA

" Bay Foundry & Machine Works (Sewage Machy., Water Filters, etc.), 401 S. Broadway, Green Bay, Wis. (Ca. "Norscreen").....A

" Bay Gear Works, 548 Lawrence, Green Bay, Wis. 54302.....C

" Bay Packaging, Inc. (S—Briggs Packaging Corp.; Kalamazoo Container Co.), 831 Doblon, Green Bay, Wis. (Br. at Franklin Park, Ill. & Wausau, Wis.).....AAAA

" Bay Paper & Pulp Co. (53—See Green Bay Packaging, Inc.).

" Bay Plastics, Inc. (A Calvis Co.), 1028 N. Ashland Ave., Green Bay, Wis. X

" Bay Soap Co. (E. A. Meyer), 2099 Shawano Ave., Green Bay, Wis....A

" Bay Steel Tube Corporation (Welded Steel Tubing), 1746 S. Broadway, Green Bay, Wis.....A

" Bros., Inc. (Steel Rule Dies), 213 Valley St., East Providence, R. I..A

" Chas., Corp. (Sample Cards), 650 Fifth Ave., New York, N. Y. 10011 C

" Chas. E., & Son, Inc. (Paint Brush Ferrules), 96 Passaic, Newark, N. J. 07104 (Br. at Elizabeth, N. J.).....AA

" Colonial, Inc. (Oil Burners, Furnaces, etc.), 322 S. W. 3rd, Des Moines, Iowa 50306 (Br. at Rockford, Ill. & Sioux Falls, S. D.)

" Co. Div., The (A J. H. Dunning Corp.) (Wooden Boxes, Box Shooks), Bellows Falls, Vt. 05101.....AAAA

" Co., Inc., The (A J. H. Dunning Corp.) (Wooden Boxes, Box Shooks), 1958 Post Rd., Darien, Conn. (Factory at Bellows Falls, Vt.) .....AAAA

" Daniel, Co. (S—Thomas Box Co.) (Felt, Stain, etc., Slippers), Dolgeville, N. Y. (Br. at New York, N. Y.; Boston, Mass. & Chicago, Ill.) .....AAAA

" Duck Co. (S—Union Metal Litho Corp.; Crafters, Inc.; St. Louis Button & Mfg. Co.) (Advertising Specialties, Badges, Buttons, etc.), 1522 W. Montana St., Chicago, Ill.....AA

" Electric Co., Inc. (Rectifiers), Fair Lawn, N. J.....A

" Farms (Lumber), Falls of Rough, Ky.....AAAA

" Foundry Co., 380 Bircher, St. Louis, Mo.....A

GREEN FUEL ECONOMIZER CO., INC., A SUBSIDIARY OF BALDWIN-LIMA-HAMILTON, 700 Main St., Beacon, N. Y. 12508 (Phone: 831-3600—Area Code 914 and New York City, WAlker 5-8966) .....AAAA
(Mechanical Draft Fans and Industrial Fans, Cindertraps, Dust Collectors, Air Heaters, etc.)
(Ex., Ca. "Economizer") (V. P. & G. M.) F. W. March; (S. M.) F. N. Houston.

" Giant Co., LeSueur, Minn. (Canneries at Woodside, Del.; Belvidere, Ill.; Blue Earth, Montgomery, Cokato, LeSueur, Winsted, Watertown, Winthrop & Glenco, Minn.; Buhl, Idaho; La Porte City, Iowa; Dayton, Ellensburg, Olympia, Pomeroy, Wash.; Beaver Dam, Fox Lake, Ripon, Rosendale & Waupun, Wis.) (Sales Offices at Burlingame, Calif.; Atlanta, Ga.; Chicago, Ill.; Bronxville, N. Y.; Minneapolis, Minn. & Lausanne, Switzerland) (Ca. "Grengiant," Lausanne) .....AAAA

" Henry J., Instruments, Inc. (Meteorological Instruments), 2502 Shames Dr., Westbury, N. Y. 11590.....AA

GREEN INSTRUMENT COMPANY, INC., Dept. 87, 295 Vassar St., Cambridge, Mass. 02139 .....A
(Engraving Machines and Accessories, Cutter Grinders, etc.)
(P.) Edwin T. Green.

" Isle Mfg. Co., Inc. (Feed Mixers, etc.), Green Isle, Minn.....A

" Jewelry Co. (School & Fraternity Jewelry), 1016 Walnut St., Kansas City, Mo. .....A

" Machinery Co. (Heads & Discharge Bases for Turbine Pumps), Plainview, Texas .....B

" Mfg. Co. (Feed Fingers), Rockton, Ill.....AAA

" Mountain Marble Co., West Rutland, Vt.....X

" Mountain Mica Co. (Mica, Quarts, etc.), Gassetts, Vt.....B

" Mountain Studios, Inc. (Wooden Dishes & Forks), White River Junction, Vt. .....B

" Mountain Tissue Div. (A Mountain Paper Products Corp.), Bellows Falls, Vt. .....AA

" Paste Works, Green Point Ave. & Liverpool Rd., Liverpool, N. Y..X

" R. H., Inc. (Nuts, Bolts), 1201 24th, Oakland, Calif.....A

" River Chair Co., Livermore, Ky.....AA

Parts, and Wood Components. Also Suppliers of Complete Assemblies)

GREENE, J-R, ASSOCIATES, INC., 25-T Amity St., Little Falls, N. 07424 (Phone: 256-8789—Area Code 201).....
(Designers and Builders of Specialized Automated Machine and Equipment for Gas Fired Drying Systems)
(Exp.) (P.) Robert Greene; (V. P.) John Greene; (S. & T. A. V. Greene.

" L. Charlton, Mfg. Co. (Photographs), Chelmsford, Mass.....

" Line Mfg. Corp. (S—Marion Eng'g Prod.) (Paper Working Machinery), Marion, Ind. .....

" M. J., Co. (S—Bollinger Corp.), 109 Smithfield, Pittsburgh, Pa.

" Machine Co. (Machine Knives), Bradley & Gordon Sts., West town, N. Y. .....

" Mfg. Co. (Gaskets; Sponge Rubber Products; Linings), 7111 Jos St., Philadelphia, Pa. .....

" Mfg. Co. (Roll Forming, Stamping, Plating, etc.), 1026 Dough Ave., Racine, Wis. 53401 .....

" Mfg. Corp. (Plastic Containers, Vials, etc.), 40 Washington I West Orange, N. J. 07052 .....

" Metal Products Inc. (Plastic Window Repair Material), 1000 Gr Ave., Evanston, Ill. 60204.....

" Plastics Corp., Hope Valley, R. I.....

" Products Co., Inc. (S—Lull-A-Babe, Inc.), 370 7th Ave., New Yor N. Y. .....

" Ray, & Co., Inc. (Boats), 510 S. Byrne Rd., Toledo, Ohio.....

" Rubber Co. (A Ponn Machine Cutting Co.), 99 Broadway, Cam bridge, Mass. .....

" Steel & Wire Co., Inc., 171 47th, Brooklyn, N. Y. (Ca. "Amersteel

" Stephen, Co. (Continuous Business Forms), 34th & Rump Sts., Phi adelphia, Pa. .....

GREENE, TWEED & CO., 340 Elm Ave., North Wales, Pa. 19454 Ar (PALMETTO Braided Packings, Molded Packings, Sheet Packings & Gaskets. FAVORITE® Reversible Ratchet Wrench BASA® Replaceable Face Hammers; EMPIRE® Rawhide Plastic Mallets; MORAN'S® Round Belt Couplings, Seali Compounds; TUSKO® Walrus Polishing Leather)
(S—Palmetto Realty Corp.)
(Ex., Ca. "Pollenmass") (P.) E. Delfiner; (V. P. & G. M.) Wil S. Josephson; (S. & T.) Henry Delfiner; (S. M.) Laurens van Dyck; (P. A.) M. D. Segall; (Plant Mgr.) Robert Whittaker.
(See our colored insert at Packings for complete description PALMETTO Packings)

" & Hodgson, Inc. (Oil Burners), 31 Commercial, Providence, R. I.

Greenebaum, Jonas, Tanning Co. (Leather), 8057 N. Rockwell Ave., C cago, Ill. .....

GREENERD PRESS & MACHINE COMPANY, INC., Crown & Cobu Sts., Nashua, N. H. 03060 (Phone: 889-4101—Area Co 603) .....
(Hand Operated Rack and Pinion Type Arbor Presses; Mot Driven Hydraulic Presses, "C" Frames Up to 150 Tons a 4-Post Presses Up to 250 Tons; Expanding and Swa Machinery Up to 700 Tons)
(A Calculagraph Company)
(P.) Wm. C. Moodie; (V. P.'s) Wm. C. Moodie, Jr., D. Moodie; (T.) R. W. Schneider; (Asst. Gen. Mgr.) P. A. LaFlamm

Greenfield, Frank L., Co., Inc. (53—See American Construction Testing Institute of New York, Inc.).

" Mfg. Co., Inc. (Pipe & Tube Hangers, etc.), 2131 E. Huntingdo Philadelphia, Pa. .....

" Paper Box Co., Inc., Greenfield, Mass.....

" Samuel, Co., Inc. (Ingots), Stone Ingot St., Buffalo, N. Y.....

" Steel Stamp Works, Inc. (Stamps & Dies), 2 Mead St., Greenfie Mass. .....

GREENFIELD TAP & DIE, DIV. UNITED-GREENFIELD CORP.—S following page.

Greenhalgh, A., Co. (Lead Burning Contractors, Stainless Steel Tank 119 Mendon Ave., Pawtucket, R. I.....

" Mills (Rayon Plain Goods), 314 Woodbine, Pawtucket, R. I.....

Figure 9. Thomas Register, A-Z Alphabetical List of Manufacturers, page 446

You are correct if you indicated that the Thomas Register's AAAA rating for the Green River Steel Corporation indicates assets in excess of $1,000,000. Turn to the question on page 29.

Your answer is that you would use the index to advertisers. This is not incorrect. The index refers you to the page in the classified list containing the manufacturer's advertisement. The advertisement usually gives specific product information. However, all manufacturers included in TR are not advertisers. Return to the question on page 23 and select a more generally correct answer.

Your answer is that you would use the product finding index. Wrong. The product index lists specific articles only and would not help you in this case. Return to page 22 and choose the correct answer.

If you have turned to this page you are not following instructions.

Question

The patron then asks if the Green River Steel Corporation has any subsidiary companies. Where would you find the answer? Refer to Figure 9, re-read the information in Figure 5 under "Subsidiaries, Affiliations, etc.," select the correct reply, and turn to the answer on the page indicated.

30. Index to Advertisers

31. A-Z List of Manufacturers

32. Product Classification Listings

Your answer is the Index to Advertisers. This is not incorrect. However, only advertisers in TR are listed here. Many manufacturers listed in TR are not advertisers. Turn back to page 29 and choose an answer that is more generally true.

Your answer is the A-Z list of manufacturers. You are right. Turn to Figure 9. Note "A Jessop Steel Co., Washington, Pa." This means that the Green River Steel Corporation is a subsidiary of or "affiliated with", or "controlled by" the Jessop Steel Company. Green River Steel does not itself have subsidiaries. Turn to the next question on page 33.

Your answer is the product classifications listings. You are wrong. The classified listings give information about specific manufactured items but do not give information about the organizational structure of the various manufacturing companies. Return to the question on page 29 and select the correct answer.

Question

A patron asks if TR indicates whether the trademarks "Focalite," "Focal-Lite," and "Focalities" are all legally registered. Read the information in Figures 10 and 10A, select the correct answer, and turn to the page on which it is contained.

36. TR doesn't give that information.

37. Information is in the American Trademark Index in Volume 7.

38. You do not have sufficient information to answer the patron's question.

THE AMERICAN TRADEMARK INDEX

Buyers' Quick Reference Lists of Leading Trademarks, Special Brands, etc.

This Trademark Index is an alphabetically arranged list of names under which various products are stamped, labeled, advertised, etc.

IMPORTANT EXPLANATION

This index is not limited to Registered Trademarks. Many of the names listed, perhaps a majority, are not registered.

When Manufacturers inform us that they are labeling, advertising, selling, etc., products under Trademarks, we usually include said Trademarks in this Index, without any consideration whatever as to whether these names are Registered Trademarks or not.

In many instances, we list the same trademarks for two or more manufacturers, and in some of these instances the duplicated "Trademark" listings are in connection with the same kind of article:—this presents apparently possible conflict. We aim to list all Trademarks that are reported to us in apparent good faith;—in cases where there may be a conflict, as indicated above, or where there is an actual dispute between Manufacturers as to the right to use a name as a Trademark, we do not, in the absence of information of legal adjudication, or other evidence convincing to us, eliminate any name from this "Trademark Index" because of such conflict or dispute. It is obvious that we are not qualified to determine the merits in such conflicts and disputes, and our listing of two or more concerns in connection with the same trademark, is wholly without indication as to which, if any, of said concerns, has the exclusive right to the use of repeated trademarks. It is left entirely to each user of the list to determine such questions from information to be secured from other sources.

The foregoing indicates the possibility, and perhaps the probability, that some of the "Trademarks" listed herein, may not be properly used by the Manufacturers, etc., listed in connection therewith.

The names of materials herein listed are the trademarks of the materials, and are not to be understood by the presentation herein to denote generic or descriptive names and words for general use.

We aim to list only Manufacturers or Proprietors in connection with "Trademarks," but error is always possible in this respect.

CAUTION

While this "Trademark Index" represents a large expenditure of time and money in an effort to make it the most complete and accurate list of its kind, some inaccuracies are inevitable for the reasons given in this explanation, and for other reasons;—therefore, nothing printed in this "Index" should be relied upon, without independent verification, and in any instance, for any use, wherein any loss or damage in any direction might result from any error or incorrect information or listing therein.

THOMAS PUBLISHING COMPANY.

No attempt is made to publish every Trademark or Brand Name. Many of them are dormant. We aim to publish only those which are likely to be looked for.

A Trademark that is the same as the name of a manufacturer is not always included in this list. If you cannot find a name here, look in the A-Z Alphabetical List of Manufacturers or Product Classifications. For example, "Watson-Stillman" Molding Presses, made by the Watson-Stillman Press Div., Farrell-Birmingham Co., Inc., would not be listed here.

Where local street address is not given, consult the A-Z Section or Product Classification for complete address.

SEE ADDITIONAL TRADEMARKS IN "ADDENDA" AT END OF THIS SECTION.

A

Elevator Buckets & Agricultural Roll Chains, Link-Belt Div. FMC Corp, Dept. TR-68, Prudential Plaza, Chicago, Ill.
- Flux-Core Solder, Kester Solder Co., 4208 Wrightwood Ave., Chicago, Ill.
- Gas Tubing, Atlantic Tubing & Rubber Co., Cranston, R. I.
- Paper & Filler Clay, Old Hickory Clay Co., Paducah, Ky.
- Polyallomer Tubing, Plastics Industrial Products Co., Inc., 17 Union, Lawrence, Mass.
- -FELT, American Felt Co., 45 Glenville Road, Glenville, Conn.
- FUMA Non-Fuming Cavity Fluid, Universal Chemical Co., St. Louis, Mo.
- -GEL Boiler Water Treatment, Betz Laboratories, Inc., Philadelphia, Pa.
- GRADE Shot Gun Shells, Federal Cartridge Corp., Minneapolis, Minn.
- -KRYL-X Latex House Paint, Cook Paint & Varnish Co., North Kansas City, Mo.
- -LURE Pin, Costume Jewelry, Wynne Precision Co., Griffin, Ga.
- MAL-GAM Welding & Brazing Fluxes, Smith Welding Equipment Div. Tescan Corp., 2633 4th St., S. E., Minneapolis, Minn.
- MANO Roofing Tile, Fraser Brick & Tile Co., San Antonio, Texas.
- -MAY-ZING Cycle Accessories, Harvey May & Son, Monroe & Harvey, Bangor, Mich.
- -ONE Paper Punch, McGill Metal Products, Inc., 110 Prairie, Marengo, Ill.
- PAGE A DAY Perpetual Year Diary, Samuel Ward Mfg. Co., Boston, Mass.
- -PEN-DEX Ring & Bound Book Label Holder, Cel-U-Dex Inc., McArthur & Windsor, New Windsor, N. Y.
- -PLUS Bethanized Strand, Bethlehem Steel Corp., Bethlehem, Pa.
- -SS Band Saw Blades, Atkins Saw Div., Greenville, Miss.

A—Con.

- " 9 Cutting Fluids, Relton Corp., Arcadia, Calif.
- " 10 Back Bands, Couch Bros. Mfg. Co., Ware St., East Point, Ga.
- " -12-16-20-23-25-26-28 Insulating Fire Brick, Armstrong Cork Co., 1010 Concord, Lancaster, Pa.
- " 19 GRIZZLYBEAR Creped, Non-Asphaltic Laminated Waterproof Paper, Ludlow Corp., Needham Heights, Mass.
- " -20-B Resin Bond, Action Diamond Tool Co., 4547 W. Grand Ave., Chicago, Ill.
- " 20, 23, 25, 26, 28 Insulating Fire Brick, North American Refractories Co., 613 Euclid Ave., Cleveland, Ohio.
- " -32, A-100 Rubber Accelerators, Monsanto Co., Organic Chemicals Div., 800 N. Lindberg Blvd., St. Louis, Mo.
- " -43 Laundry Detergent, Diamond Alkali Co., Cleveland, Ohio.
- " -44 Laundry Detergent, Diamond Alkali Co., Cleveland, Ohio.
- " 52 Foundry Core & Facing Binder, Krause Milling Co., Milwaukee, Wis.
- " -56 Compressed Asbestos Sheet Packing, Raybestos-Manhattan Inc., Packing Div., Passaic, N. J.
- " -94 Bowling Chalk, American Crayon Co., 2002 Hayes Ave., Sandusky, Ohio.
- " 200 Degreaser Fluid, Barco Chemical Products Co., 703 S. La Salle, Chicago, Ill.
- " -612 Aluminum Etchant, DuBois Chemicals, Div. W. R. Grace Co., 630 Broadway, Cincinnati, Ohio.
- " 2000 Clean Room Mats, International Rubber Corp., 85 High, Boston, Mass.
- " 20000 Spherical Roller Bearings, Link-Belt Div. FMC Corp., Dept. TR-68, Prudential Plaza, Chicago, Ill.

AA, A A Industries Inc., 352 Fair, Detroit, Mich.
- " Bronze Bushings, "A" Brass Foundry, Los Angeles, Calif.

AAR—Con.

- " Valves, Globe, Angle, Railroad, The Lunkenheimer Co., Beekman St. at Waverly Ave., Cincinnati, Ohio.
- " Standard Type Couplers, McConway & Farley Corp., 119 48th, Pittsburgh, Pa.

A. A. S. Springs, Allegheny Auto Spring Co., Pittsburgh, Pa.

A A 1 Check Writers Machinery, Checkwriter Co., New York, N. Y.
- " Copper, Tin Bearing Metals, Glacier Metal Co., Richmond, Va.
- " Tinsel Goods, Hy-Sil Mfg. Co., 100 Spring Ave., Revere, Mass.

A B Brand Spices & Seasonings, Vico-Asmus Products, Detroit, Mich.

AB Domestic Gas Ranges, Welbilt Corp., Maspeth, N. Y.
- " Ozone-Resist. Butyl-Rubber Cable Insulation, Anaconda Wire & Cable Co., New York, N. Y.
- " Tags & Labels, Allen-Bailey Tag & Label Inc., 343 Ogden St., Caledonia, N. Y.
- " CO., Venetian Blinds, Alphonse Brenner Co., Shreveport, La.
- " COATINGS for Use on Aceto-Butyrate, Sped-O-Laq Products, Inc., Industrial Div., St. Paul, Minn.

A B & B Auto Fenders, Running Boards, Battery Boxes, etc., Stolper Steel Products Corp., 3314 Fond du Lac Ave., Milwaukee, Wis.

ABC All Balanced Control, Adams Engineering Co., Inc., Ojus, Fla.
- " Allison Automatic Bag Closing, Blaw-Knox Co. Food & Chemical Equipment Div., 43 Winchester Ave., Buffalo, N. Y.
- " Antiseptic Veterinary Blood-Clotting Powder, Chas. Pfizer & Co., Inc., Agricultural Div., Dalls, Texas.
- " Aluminum Welding Flux, Anti-Borax Compound Co., Inc., Wall at Miller, Fort Wayne, Ind.
- " Automatic Bar-Chucking Lathes, Gisholt Machine Co., Div. of Giddings & Lewis Machine Tool Co., 1309 E. Washington Ave., Madison, Wis.

Paper & Filler Clay, Old Hickory Clay Co., Paducah, Ky.
Polyallomer Tubing, Plastics Industrial Products Co., Inc., 17 Union, Lawrence, Mass.
-FELT, American Felt Co., 45 Glenville Road, Glenville, Conn.
FUMA Non-Fuming Cavity Fluid, Universal Chemical Co., St. Louis, Mo.
-GEL Boiler Water Treatment, Betz Laboratories, Inc., Philadelphia, Pa.
GRADE Shot Gun Shells, Federal Cartridge Corp., Minneapolis, Minn.
-KRYL-X Latex House Paint, Cook Paint & Varnish Co., North Kansas City, Mo.
-LURE Pin, Costume Jewelry, Wynne Precision Co., Griffin, Ga.
MAL-GAM Welding & Brazing Fluxes, Smith Welding Equipment Div. Tescan Corp., 2533 4th St., S. E., Minneapolis, Minn.
MANO Roofing Tile, Fraser Brick & Tile Co., San Antonio, Texas.
-MAY-ZING Cycle Accessories, Harvey May & Son, Monroe & Harvey, Bangor, Mich.
-ONE Paper Punch, McGill Metal Products, Inc., 110 Prairie, Marengo, Ill.
PAGE A DAY Perpetual Year Diary, Samuel Ward Mfg. Co., Boston, Mass.
-PEN-DEX Ring & Bound Book Label Holder, Cel-U-Dex Inc., McArthur & Windsor, New Windsor, N. Y.
-PLUS Bethanized Strand, Bethlehem Steel Corp., Bethlehem, Pa.
PUS Band Saw Blades, Atkins Saw Div., Greenville, Miss.
-SCOPE Interferometer, Varian Associates, Vacuum Div., 611-T Hansen Way, Palo Alto, Calif.
Switches, Federal Pacific Electric Co., 40 Paris St., Newark, N. J.
-TEX, Jomac, Inc., 863 Easton Rd., Warrington, Pa.
TZ Fence & Barbed Wire, Sheffield Div., 7000 Roberts, Kansas City, Mo.
Fence & Barbed Wire, Armco Steel Corp., 1939 Armco Ave., Middletown, Ohio.
A. Milne & Co., Inc., Kenilworth, N. J.
Brick for Washing, James Austin Co., Inc., Mars, Pa.
Chemical Hydrate, Meeker Stone & Lime Co., Quincy, Ill.
Cotton Buffs & Wheels, Williamsville Buff Co., Inc., 198 Seward Ave., Utica, N. Y.
for Screw Worms in Live Stock, Crown Products Co., Douglas, Ga.
House Paint, Hardig Paint Co., Cincinnati, Ohio.
Large Capacity Jaw Crusher, Allis-Chalmers, 864 S. 70th St., Milwaukee, Wis.
Metal Polish & Cleaning Compound, J. L. Prescott Co., Passaic, N. J.
Silicon Carbide, Remmey Div. of A. P. Green Fire Brick Co., Zone 37, Philadelphia, Pa.
Soaps, etc., Sanitary Chemical Laboratories, Beaumont, Texas.
Solvent, Mercury Chemical Corp., Metuchen, N. J.
Steak Sauces, G. F. Heublin & Bro., Hartford, Conn.
Toilet Tissue & Towels Sterling Pulp & Paper Co., Eau Claire, Wis.
-ZONE Sanitizers Dairy, A & L Laboratories Inc., Minneapolis, Minn.
Ground Chrome Ore, E. J. Lavino & Co., Philadelphia, Pa.
5-X Pyrometer, Thwing-Albert Instrument Co., 10900 Dutton Rd., Philadelphia, Pa.
-7 Air Hardening Tool Steel, Bethlehem Steel Corp., Bethlehem, Pa.
-7 All Fuels Boiler, American Radiator & Standard Sanitary Corp., New York, N. Y.
-7 Diaphragm Chucks, Sadler Mfg. Co., Inc., Little Neck, N. Y.
4-Way Steel Wire Pallets, Union Steel Products Co., 242 N. Berrien St., Albion, Mich.

" 19 GRIZZLYBEAR Creped, Non-Asphaltic Laminated Waterproof Paper, Ludlow Corp., Needham Heights, Mass.
" -20-B Resin Bond, Action Diamond Tool Co., 4547 W. Grand Ave., Chicago, Ill.
" 20, 23, 25, 26, 28 Insulating Fire Brick, North American Refractories Co., 613 Euclid Ave., Cleveland, Ohio.
" -32, A-100 Rubber Accelerators, Monsanto Co., Organic Chemicals Div., 800 N. Lindberg Blvd., St. Louis, Mo.
" -43 Laundry Detergent, Diamond Alkali Co., Cleveland, Ohio.
" -44 Laundry Detergent, Diamond Alkali Co., Cleveland, Ohio.
" 52 Foundry Core & Facing Binder, Krause Milling Co., Milwaukee, Wis.
" -56 Compressed Asbestos Sheet Packing, Raybestos-Manhattan Inc., Packing Div., Passaic, N. J.
" -94 Bowling Chalk, American Crayon Co., 2002 Hayes Ave., Sandusky, Ohio.
" 200 Degreaser Fluid, Barco Chemical Products Co., 703 S. La Salle, Chicago, Ill.
" -612 Aluminum Etchant, DuBois Chemicals, Div. W. R. Grace Co., 630 Broadway, Cincinnati, Ohio.
" 2000 Clean Room Mats, International Rubber Corp., 85 High, Boston, Mass.
" 20000 Spherical Roller Bearings, Link-Belt Div. FMC Corp., Dept. TR-68, Prudential Plaza, Chicago, Ill.
AA, A A Industries Inc., 352 Fair, Detroit, Mich.
" Bronze Bushings, "A" Brass Foundry, Los Angeles, Calif.
" Castor Oil, Baker Castor Oil Co., Bayonne, N. J.
" Drill Jig Bushings, All American Products Co., Ruberta & San Francisco Rd., Glendale, Calif.
" Elevator Buckets, Link-Belt Div. FMC Corp., Dept. TR-68, Prudential Plaza, Chicago, Ill.
" Greases, Mobil Oil Co., New York, N. Y.
" Hydraulic Control Valves, Double A Products Co., Sub. of Brown & Sharpe Mfg. Co., Upton St., Manchester, Mich.
" Segment Chucks for Vertical Spindle Surface & Horizontal Face Grinding, The Fuller Merriam Co., Div. of The FMR Corp., 68 Water St., West Haven, Conn.
" Unit Cooler, Tenney Engineering, Inc., 1080 Springfield Rd., Union, N. J.
" AUTO ARC Welding Head, Auto Arc-Weld Mfg. Co., Cleveland, Ohio.
" -JO Paper Products, Sorg Products Co., Ligonier, Ind.
AA QUALITY Abrasives, American Abrasive Co., 100 Union, Westfield, Mass.
" QUALITY Fertilizers & Chemicals, American Agricultural Chemical Co., New York, N. Y.
" -RB Elevator Buckets, Link-Belt Div. FMC Corp., Dept. TR-68, Prudential Plaza, Chicago, Ill.
" WORKHORSE Washer-Extractor Comb., AA Laundry Machinery Co., 1112 S. Kedzie Ave., Chicago, Ill.
A. A. & W. P. Acid Proof Paint, Parr Paint and Sealants Inc., Syracuse & Brussels Road, Cleveland, Ohio.
A A A A Genuine Babbitt & Anti-Friction Bearing Metal, Seitzinger's, Inc., Atlanta, Ga.
AAAAA Oil Filter, Liberty Industries, Inc., Junius & Livonia Ave., Brooklyn, N. Y.
A A A A BRAND Felt, American Felt Co., 45 Glenville Road, Glenville, Conn.
AAB Valve Reseating Equipment, New Ulm Mfg. Co., Inc., New Ulm, Minn.
A A F Aircraft Engine Intake Filters, American Air Filter Co., Inc., 200 Central Ave., Louisville, Ky.
A A F ROTO-CLONE Dust Collectors, American Air Filter Co., Inc., 200 Central Ave., Louisville, Ky.
AAPCO Drill Jig Bushings, All American Products Co., Ruberta & San Francisco Road, Glendale, Calif.
AAR Couplers, American Steel Foundries, Inc., Chicago, Ill.

A A 1 Check Writers Machinery, Checkwriter Co., New York, N. Y.
" Copper, Tin Bearing Metals, Glacier Metal Co., Richmond, Va.
" Tinsel Goods, Hy-Sil Mfg. Co., 100 Spring Ave., Revere, Mass.
A B Brand Spices & Seasonings, Vico-Asmus Products, Detroit, Mich.
AB Domestic Gas Ranges, Welbilt Corp., Mazpeth, N. Y.
" Ozone-Resist. Butyl-Rubber Cable Insulation, Anaconda Wire & Cable Co., New York, N. Y.
" Tags & Labels, Allen-Bailey Tag & Label Inc., 343 Ogden St., Caledonia, N. Y.
" CO., Venetian Blinds, Alphonse Brenner Co., Shreveport, La.
" COATINGS for Use on Aceto-Butyrate, Sped-O-Laq Products, Inc., Industrial Div., St. Paul, Minn.
A B & B Auto Fenders, Running Boards, Battery Boxes, etc., Stolper Steel Products Corp., 3314 Fond du Lac Ave., Milwaukee, Wis.
ABC All Balanced Control, Adams Engineering Co., Inc., Ojus, Fla.
" Allison Automatic Bag Closing, Blaw-Knox Co. Food & Chemical Equipment Div., 43 Winchester Ave., Buffalo, N. Y.
" Antiseptic Veterinary Blood-Clotting Powder, Chas. Pfizer & Co., Inc., Agricultural Div., Dalls, Texas.
" Aluminum Welding Flux, Anti-Borax Compound Co., Inc., Wall at Miller, Fort Wayne, Ind.
" Automatic Bar-Chucking Lathes, Gisholt Machine Co., Div. of Giddings & Lewis Machine Tool Co., 1309 E. Washington Ave., Madison, Wis.
" Automatic Coffee Creamer, Alfred Brundage Co., Newark, N. J.
" Bags, All American Mailing Bag Co., 190 Railroad Ave., Jersey City, N J.
" Balances, American Balance Corp., 68-B First, New Rochelle, N. Y.
ABC Blowers, American-Standard Industrial Div., Tireman Ave. at Roselawn, Detroit, Mich.
" Brattice Cloth & Non-Collapsible Tubing, American Brattice Cloth Corp., 280 Kings Highway, Warsaw, Ind.
" Bushings & Lift Swing Drilling Fixtures, Machined Cast-Iron & Aluminum Sections, Accurate Bushing Co., 439 North Ave., Garwood, N. J.
" Castings, Augustine Brass Casting Co., Stockton, Calif
" Clips, Armstrong Store Fixture Co., Sharpsburg, Pa.
" Clothes Washers, Ironers & Dryers, Altorfer Bros., Peoria, Ill.
" Code English & Spanish, American Code Co., Hackensack, N. J.
" Coke & Coal Chemicals, Alabama By-Products Corp., Birmingham, Ala.
" Detergent Sanitizers, Armstrong Chemical Co., Inc., Rochester, N. Y.
" Dry Clean Pads, Keuffel & Esser Co., Hoboken, N. J.
" Dumbwaiters Sedgwick Machine Works, 82 8th Ave., New York, N. Y.
" Fasteners, Bolts, Nuts, Rivets, Washers, Screws, Academy Bolt & Nut Corp., Chicago, Ill.
" Filter Cloth & Paper Sewed Products Co., Fox River Grove, Ill.
" Fire Appliances, Croker Fire Prevention Corp., 658 Gerard Ave., New York, N. Y.
" Injector Petrocarb, Inc., 240 Broadway, New York, N. Y.
" Inoculations for All Legumes, Pearson & Co., Mobile, Ala.
" Lift Swing Drilling Fixture, Accurate Bushing Company, 439 North Ave., Garwood, N. J.
" Oil Line Couplings, Atlas Bradford Co., Houston, Texas.
" Paper Products, Alfred Bleyer & Co., Inc., Maspeth, N. Y.
" Pattern Boards, C. B. Hewitt & Bros., 19 Green, New York, N. Y.
" Payroll System, Check, The Todd Company Div., Burroughs Corp., Rochester, N. Y.
" Pearl Buttons, Automatic Button Co., Muscatine, Iowa.

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Figure 10. Thomas Register, Volume VII, American Trademark Index, page 1

CAUTION — See Explanation on Front Page of this Section — See Addenda at end of this section

FLUOROGLIDE TFE Spray Film, Dry Lubricant, Mold Release & Anti-Stick Agent, Chemplast Inc., 152 Dey Rd., Wayne, N. J.
FLUOROGREEN Piston Rings & Rod Packings, etc., John L. Dore Co., 5408 Schuler, Houston, Texas.
FLUOROJEL Teflon Lubricant, Dilectrix Corp., Grand Ave. & Allen Blvd., Farmingdale, L. I., N. Y.
FLUOROL Dentifrice, Colgate-Palmolive Co., 302 Park Ave., New York, N. Y.
FLUOROL Fluorescent Agents, General Aniline & Film Corp., New York, N. Y.
FLUOROLUBES Fluorocarbons. For Use As Lubricants or Sealants, Hooker Chemical Corp., Industrial Chemical Div., 1940 Ward St., Niagara Falls, N. Y.
FLUOROLUX Precision Processed, Rugged-Service Flourocarbon, Westlake Plastics Co., 161 W. Lenni Rd., Lenni Mills, Pa.
FLUOROMAR Inhalation Anesthetic Agent, Ohio Chemical & Surgical Equipment Co., A Div. of Air Reduction Co Inc., Madison, Wis.
FLUOROMER Compound Seals, Greene, Tweed & Co., North Wales, Pa.
FLUOROPEL Teflon Industrial Coatings, Dilectrix Corp., Grand Ave. & Allen Blvd., Farmingdale, L. I., N. Y.
FLUOROPHENE Fluorinated Salicylanilide, Stecker Chemicals, Inc., Hoboken, N. J.
FLUOR-RAY Ceramic Filled Fluorocarbon, Raybestos-Manhattan Inc., Packing Div., Passaic, N. J.
" For Blue Ceramic Filled TFE, Raybestos-Manhattan, Inc., Fluorocarbon Products Dept., Arnold & Steigel Sts., Manheim, Pa.
FLUOROSEAL Fluorescent Cloth, Century Lighting, Inc., New York, N. Y.
FLUOROSINT Ceramic-Like Fluorocarbon Plastic, The Polymer Corp., Reading, Pa.
" Tfe Base Composition, Fluorocarbon Resin, Polymer Corp., Reading, Pa.
FLUO SOLIDS Dryer Fluid Bed, Dorr-Oliver Inc., 77 Havemeyer Lane, Stamford, Conn.
FLUOSOUR Laundry Sour, American Fluoride Corp., New York, N. Y.
FLURACITE Baked Enamel Finish, Curtis-Affbrite Lighting, Inc., South San Francisco, Calif.
FLURAN Plastics, United States Stoneware Co., 5300 E. Tallmadge Ave., Akron, Ohio.
FLUR-DRY Concrete Floor Sealer, Klee Waterproofing Corp., Cincinnati, Ohio.
FLURESEAL Block Sealer, Klee Waterproofing Corp., Cincinnati, Ohio.
FLURESIT Waterproofing Admix for Poured Concrete or Mortar, Klee Waterproofing Corp., Cincinnati, Ohio.
FLURO Photographic Lenses, Eastman Kodak Co., 343 State St., TR. Rochester, N. Y.
" ETHYL, Gebauer Chemical Co., Cleveland, Ohio.
" -LAMP Fluorescent Lamp Disposal Units & Lamp Holder Locks, Laduby Co. Inc., P. O. Box 87, Branford, Conn.
FLUR-O-LOCKS Fluorescent Lamp Holder Locks, Laduby Co., Inc., P. O. Box 87, Branford, Conn.
FLUROPON Fluorocarbon Polymeric Coating, De Soto Chemical Coatings, Inc., Des Plaines, Ill.
FLUROSTONE Concrete Floor Hardener, Klee Waterproofing Corp., Cincinnati, Ohio.
FLURSOL, Newport Chemical Mfg. Co., Inc., Brooklyn, N. Y.
" BRITE Toilet Bowl Cleaner, Enoz Corp., Chicago, Ill.
FLUSH CLEAN Tank Tablets, Irwin-Willert Co., St. Louis, Mo.
FLUSH-IT Drain Pipe Cleaner, The Perolin Co., Empire State Bldg., New York, N. Y.
" -KLEEN Clog-Proof Sewage Pumping Systems, With Self Cleaning Flo Thru Strainers, Chicago Pump, Hydrodynamics Div., FMC Corp., 622-A Diversey Pkwy., Chicago, Ill.
" PLASTER Office Partitions, Mills Co., 921 Wayside Rd., Cleveland, Ohio.
FLUSH SEAL Hex-Socket Pressure Plugs, Allen Mfg. Co., Drawer 570, Hartford, Conn.
" THP Donne A Lucas & Sons, 1324 S Washington St., Peoria, Ill.
FLUSHART, Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHAWAY Paint & Varnish Remover, Momar, Inc., Atlanta, Ga.
FLUSHBOY Flush Valves, Coyne & Delany Co., 850 Kent Ave., Brooklyn, N. Y.
FLUSHCALL Bells & Buzzers, Edwards Co., Post Hill Rd., Norwalk, Conn.
FLUSHING Paint, Chilton Paint Co., College Point, L. I., N. Y.
FLUSHITE Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHLITE, Flush Ceiling Fix, Jaehnig Lighting Fixture Co., Union, N. J.
" Hardware, California Plasteck, Inc., Reseda, Calif.
FLUSHMETAL, Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHMOUNT Hanger, L&M Mold & Die Engineering, Pasadena, Calif.
FLUSHOLA Toilet Bowl Cleaner, Gateway Chemical Co., 116 Southwest Blvd., Kansas City, Mo.
FLUSHSEAL Toilet Seat, Church Seat Co., Manchester, N. H.
FLUSH-TITE Pipe Fittings, Imperial Eastman Corp., 222 S. Riverside Plaza, Chicago, Ill.
FLUSH-TONE Toilet Bowl Cleaner, Gateway Chemical Co., 116 Southwest Blvd., Kansas City, Mo.
FLUSHTRONIC Toilet Flushing Valve, Sloan Valve Co., 4300 W. Lake, Chicago, Ill.
FLUSHWAY Toilet Bowl Cleaner, Gateway Chemical Co., 116 Southwest Blvd., Kansas City, Mo.
FLUTEX Fluted Plastic Sheet, Filon Corp., Akron, Ohio.
FLUTEX Fluted Plastic Sheet, Filon Corp., Akron, Ohio.
FLUTTER-FREE Fabric Softener, Lever Brothers Co., 390 Park Ave., New York, N. Y.
FLUX Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXALL Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXARC Welding Electrodes, Lincoln Electric Co., 22801 Euclid Ave., Cleveland, Ohio.
FLUXBOND Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXBRAZE Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXCOTE Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXFLOW Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXFREE Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXGUARD Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXITE Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXMASTER Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXMIX Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXOL Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXSEAL Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXSOL Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXTAPE Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLUXWELD Soldering Fluxes, Handy & Harman, 82 Fulton St., New York, N. Y.
FLX-ARM Vises, Flotron Industries, Inc., Grand Ave. at Nevada, El Segundo, Calif.
" JINX Insect Spray, Claire Mfg. Co., 7640 S. Vincennes, Chicago, Ill.
" -KIL Vaporizer, Peters Co., Stevens Pt., Wis.
" -MIST Water Type Livestock Spray, Agkem, Inc., Quincy, Ill.
" NIP Insecticide, Western Chemical Co., St. Joseph, Mo.
" NIX Insecticide, Aerosol, Western Chemical Co., St. Joseph, Mo.
" NO MORE Insecticide, Germo Mfg. Co., St. Louis, Mo.
" -NUT Form Clamps, Williams Form Engineering Corp., Madison & Garden Sts., S. E., Grand Rapids, Mich.
" -O-MIST Fly Spray, Connecticut Chemical & Disinfectant Co., Inc., New Haven, Conn.
" SHOO Fly Repellent, Germo Mfg. Co., St. Louis, Mo.
" -TOX Household Insecticides, Rex Research Div., Toledo, Ohio.
" WEIGHT Gym Mats, Premier Products Corp., River Vale, N. J.
FLYABOUT Luggage, Hartmann Luggage Co., Lebanon, Tenn.
FLYDED Insect Spray, Boyle-Midway, Inc., New York, N. Y.
FLYER, AMF Wheel Goods Div. American Machine & Foundry Co., Olney, Ill.
" Coaster Wagons, Garton Toy Co., Sheboygan, Wis.
" Passenger Tires, The Dayton Tire & Rubber Co., Dayton, Ohio.
FLYER Slide & Motion Picture Projection Screen, Da-Lite Screen Co., Inc., N. Detroit Blvd., Warsaw, Ind.
" Tennis Racquets, Racquet Co., Arcanum, Ohio.
FLYFOOT STICK Belt Dressing, Chas. A. Schieren Co., Div., Walnut & Thomas Sts., Camden, N. J.
FLYGT Submersible Pumps, Flygt Corporation, 2 Amelia Place, Stamford, Conn.
FLYING-A Gasolines, Batteries, Tires & Automotive Accessories, Tidewater Oil Co., Los Angeles, Calif.
" Aerofillates, Inc., Fort Worth, Texas.
" ACE Roller Skates, Moen & Patton, Inc., Lancaster, Pa.
" ACE Spaghetti & Macaroni, Chicago Macaroni Co., Lancaster, Pa.
" ALES, Dr. Posner Shoe Co., Inc., New York, N. Y.
FLYING CARPET Air Bearings For Jigs & Fixtures, Sperman Metal Specialties, 1087 Rogers Ave., Brooklyn, N. Y.
" CLOUD, AMF Wheel Goods Div. American Machine & Foundry Co., Olney, Ill.
" COASTER, Aerofillates, Inc., Fort Worth, Texas.
" CROSS Shirts, B. Lippman, Inc., New York, N. Y.
" DOFF, Unistel Textile Machine Corp., 229 Westchester Ave., Port Chester, N. Y.
" EAGLE, AMF Wheel Goods Div. American Machine & Foundry Co., Olney, Ill.
" FALCON, AMF Wheel Goods Div. American Machine & Foundry Co., Olney, Ill.
" FARMER Airport Lighting, Line Material Industries, Div. McGraw Edison Co., Milwaukee, Wis.
" -L Auto Gates or Cattle Guard, Fireplaces & Trailers, Lincoln Steel Corp., Lincoln, Neb.
" RED HORSE Industrial Grease, Mobil Oil Co., New York, N. Y.
" SAUCER Airboats, Banks-Maxwell Propeller Co., Ft. Worth, Texas.
" SAUCER Chick Brooder, James Mfg. Co., Fort Atkinson, Wis.
" SAUCER Pelletizing & Mixing Discs, Dwight-Lloyd Div. McDowell-Wellman Engineering Co., Cleveland, Ohio.
" SAUCER Postal Scale, Dinsmore Instrument Co., Flint, Mich.
FLYING SCOT Open Side Planers, G. A. Gray Co., 3611-T Woodburn Ave., Cincinnati, Ohio.
" SCOUT Steel Wheel Skates, Chicago Roller Skate Co., 4449 W. Lake, Chicago, Ill.
" SPOT Recorders, Alden Electronic & Impulse Recording Equipment Co., Westboro, Mass.
FLYNN Gas Burners, Flynn Burner Corp., 432 Fifth Ave., New Rochelle, N. Y.
FLYNNTAN Sheep, Cowhide & Horsehide Leather, John & Sons, Salem, Mass.
FLYSTOP Air Curtain, Miniveil Div. of Berner Industries, Inc., Industries Inc., P. O. Box 349-T, New Castle, Pa.
FLYTEMATE Luggage, Hartmann Luggage Co., Lebanon, Tenn.
FLYTOMETER Flight Instrument, Lorenzen Industries, Lake & Thomas, Niles, Mich.
FLYWEIGHT Aluminum Ladder Jack, Stinson Mfg. Co., Inc., Spokane, Wash.
FLYWEIGHT Luggage, Oshkosh Luggage Co., New York, N. Y.
FOAM A Barytes, De Lore Div. National Lead Co., Iron Mt. Tracks & River Des Peres, St. Louis, Mo.
" AIR Headrests, Densco, Inc., Denver, Colo.
" -DET High Foaming Detergent, Oakite Products Inc., Berkeley Heights, N. Y.
" EASE Foot Pads, Cushions & Shields, Scholl Mfg. Co., Inc., Chicago, Ill.
FOAMEX Fire Extinguisher, American-La France-Foamite Corp., 101 E. La France St., Elmira, N. Y.
" Foam & Froth Preventive, Glyco Chemicals Inc., 417-423 Fifth Ave., New York, N. Y.
" Mattresses, San-Hygiene Furniture Mfg. Co., Akron, Ohio.
FOAMFILM Plywood Form Sealer, A. C. Horn Products, Dewey & Almy Div., Cambridge, Mass.
FOAMFLEX Coaxial Cable, Phelps Dodge Electronic Prods. Corp., New Haven, Conn.
" High Frequency Cable, Phelps Dodge Copper Products Corp., Habirshaw Div., New York, N. Y.
" Weatherstrip, J. W. Mortell Co., 582 Burch St., Kankakee, Ill.
FOAMGLAS (Insulation), Pittsburgh Corning Corp., Dept. TR, One Gateway Center, Pittsburgh, Pa.
FOAMGRAB Adhesive Bonding for Plastic Foams, Decar Chemical Products Co., Wabash & McCartney St., Pittsburgh, Pa.
FOAMGUARD Finish for Low Temperature Facilities, Walls & Ceilings, Dacar Chemical Products Co., Wabash & McCartney St., Pittsburgh, Pa.
FOAMITE Fire Extinguishers & Industrial Fire Protection Systems, La France Export Corp., 99 E. La France St., Elmira, N. Y.
" Fire Extinguishers, Powder Recharges, Fixed Automatic Extinguishing Systems, Foam Generators, American La France Div. of Automatic Sprinkler Corp. of America, 502 E. La France, Elmira, N. Y.
FOAMITROL Foam Control Agent, Colloids, Inc., 394-T Frelinghuysen Ave., Newark, N. J.
FOAMIZER Device For Foam Washing Vehicles, Oakite Products, Inc., New York, N. Y.
FOAMKILL Defoamers, Crucible Chemical Co., 5562 Northwest Hwy., Chicago, Ill.
FOAMLINER Laminated Outerwear & Insulated Jackets, Phoenix Mfg. Co., Roselle, N. J.
FOAMOLDER Polystyrene Molding Machine, Champlain-Zapata Inc., Charlotte, N. C.
FOAMONEL Press Pads, Resilio Press Pad Co., Chicago, Ill.
FOAMOTHETIC Syn. Foam, Rubber Fabrics Co., New York, N. Y.
FOAMPEDIC, Sleepmaster Products Co., Inc., Newark, N. J.
FOAMRITE Fume Preventive, L. O. Burrell Co., Inc., Kirkover St. Ext. & P. R. R., Buffalo, N. Y.
FOAMSEAL Foamed, Closed Cell Plastic Tape, Sandon Inc., 14 Barker Ave., Granville, N. Y.
" Joint & Flashing Compound, Benjamin Foster Co., 4600 W. Girard Ave., Philadelphia, Pa.
FOAMSPRING, Sleepmaster Products Co., Inc., Newark, N. J.
FOAMTHANE Insulation, Pittsburgh Corning Corp., Dept. TR, One Gateway Center, Pittsburgh, Pa.
FOAMTREDS Slippers, Wellco Shoe Corp., Waynesville, N. C.
FOAMVELOPES Cushioned Package Protection, Donray Products Co., Cleveland, Ohio.
FOAMWEIGHT Manifold Paper, Lafayette Co., New York, N. Y.
FOAMY Brushless & Lather Shaving Cream, Gillette Safety Razor Co., Boston, Mass.
" Carpet & Upholstery Shampoo, Lester Labs., Inc., Atlanta, Ga.
FOCALIPSE Elec. Heater, Bersted Mfg. Div., Boonville, Mo.
FOCALITE, Cameron-Miller Surgical Instruments Co., Chicago, Ill.
" Egg Candlers, Metallic Arts of New England, Inc., Cambridge, Mass.
FOCAL-LITE Portable Hand Light, Focal Co., Downey, Calif.
FOCALITES Amplex Div., Carle Place, N. Y.
FOCITRONIC Long Standoff Optical Non-Contact Measurement, Mechanical Technology Inc., Instruments Div., 968-70 Albany-Shaker Rd., Latham, N. Y.
FOCO-CRANE Hydraulic Crane, Focowil Corp., Chicago, Ill.
" FLAR Reflector Flares, Gleason Corp., Anthes Div., 2266 Prospect Ave., Milwaukee, Wis.
FOCUS Glass Cleaner, Water Soluble Products Div., Chicago, Ill.
" Office & Conference Seating, Harter Corp., Prairie Ave. at Runyan, Sturgis, Mich.
FODA Color Process Separation, Foote & Davies Div., Doraville, Ga.
FO-DI-CO Products Food Display Covers, Food Display Cover Co., Transportation Bldg., Indianapolis, Ind.
FOERG'S Remedy, Chas. Leich & Co., Evansville, Ind.
FOG Sprayers, H. D. Hudson Mfg. Co., 587-91 E. Illinois St., Chicago, Ill.
" Steam Cleaning Compound, Lester Laboratories Inc., Atlanta, Ga.
" AIRE Dairy Barn Foggers, Gallo Mfg. Co., Racine, Wis.
" -AIRE Evaporator, Pioneers, Inc., Oakland, Calif.
" CHIEF Nozzles, Powhatan Brass & Iron Works, Ranson, W. Va.
" CUTTER Rainwear, Burr & Votaw, San Francisco, Calif.
" DRIVE FIRE FIGHTER Fire Pump, Food Machinery, Corp., San Jose, Calif.
" FOAM Firefighting Nozzles, Bliss-Rockwood, A Div. E. W. Bliss Co., 50 Harlow St., Worcester, Mass.
" FREE Anti-Fog Liquid, Industrial Products Co., 2816 N 4th St., Philadelphia, Pa.
" FRFE Goggles, H. L. Bouton Co., Inc., Scenic Hwy., Buzzards Bay, Mass.

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FLUROSTONE Concrete Floor Hardener, Klee Waterproofing Corp., Cincinnati, Ohio.
FLURSOL Newcol Chemical Mfg. Co., Inc., Brooklyn, N. Y.
" BRITE Toilet Bowl Cleaner, Enoz Corp., Chicago, Ill.
FLUSH CLEAN Tank Tablets, Irwin-Willert Co., St. Louis, Mo.
FLUSH-IT Drain Pipe Cleaner, The Perolin Co., Empire State Bldg., New York, N. Y.
" -KLEEN Clog-Proof Sewage Pumping Systems, With Self Cleaning Flo Thru Strainers, Chicago Pump, Hydrodynamics Div., FMC Corp., 622-A Diversey Pkwy., Chicago, Ill.
" MASTER Office Partitions, Mills Co., 921 Wayside Rd., Cleveland, Ohio.
FLUSH SEAL Hex-Socket Pressure Plugs, Allen Mfg. Co., Drawer 570, Hartford, Conn.
" TOP Dower A Lucas & Sons, 1324 S Washington St, Peoria, Ill.
FLUSHART, Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHAWAY Paint & Varnish Remover, Momar, Inc., Atlanta, Ga.
FLUSHBOY Flush Valves, Coyne & Delany Co., 850 Kent Ave., Brooklyn, N. Y.
FLUSHCALL Bells & Buzzers, Edwards Co., Post Hill Rd., Norwalk, Conn.
FLUSHING Paint, Chilton Paint Co., College Point, L. I., N. Y.
FLUSHITE Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHLITE, Flush Ceiling Fix., Jaehnig Lighting Fixture Co., Union, N. J.
" Hardware, California Plasteck, Inc., Reseda, Calif.
FLUSHMETAL, Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHMOUNT Hanger, L&M Mold & Die Engineering, Pasadena, Calif.
FLUSHOLA Toilet Bowl Cleaner, Gateway Chemical Co., 116 Southwest Blvd., Kansas City, Mo.
FLUSHOUT Bowl Porcelain Cleaner, C. B. Dolge Co., Ferry Lane, Westport, Conn.
FLUSHOWER, Flush-Metal Partition Corp., Long Island City, N. Y.
FLUSHUNG Flush-Metal Partition Corp., Long Island City, N. Y.
FLUTED GUIDE Flowmeters, Cox Instrument Div., 15300 Fullerton Ave., Detroit, Mich.
FLU-TEMP Flue Gas Temperature Indicator, Cleveland Controls Inc., 1095 Brookpark Rd., Cleveland, Ohio.
FLUTEX Glass, American Saint Gobain Corp., Kingsport, Tenn.
FLUTRON Ruffle Ironers, Maxant Button & Supply Co., Chicago, Ill.
FLUTTER DISPLAY MOTOR for Mechanical Window Displays, American Display Co., Dayton, Ohio.
" -FIN Fishing Lure, The Worth Co., Whiting, Stevens Point, Wis.
FLUTTERMETER, Kar- Electric Co., Maple Ave., Dept. TR-2, Pine Brook, N. J.
FLUXAMP Capacitor Wire, Sprague Electric Co., 149 Marshall St., North Adams, Mass.
FLUX-DRI Electric Clothes Dryers, Hamilton Mfg. Co., 1935 Evans, Two Rivers, Wis.
" -FLAW, A P I Instruments Co., Chesterland, Ohio.
" -N-SOLDER, Johnson Mfg. Co., Princeton, Iowa.
" -SEAL Pump, Bart Mfg. Corp., 126 Manchester Pl., Newark, N. J.
FLUX-STIK Soldering Flux in Stick Form, Non-Acid, Self-Cleaning, Lake Chemical Co., 270 Washtenaw Ave., Chicago, Ill.
FLUXDUCER, Bergen Laboratories, Inc., 60 Spruce, Paterson, N. J.
FLUXEM Metal Cleaner, Hill & Griffith Co., 1265-1267 State Ave., Cincinnati, Ohio.
FLUXINE Flux, Eastern Welding Equipment Co., Inc., 777 Old Country Rd., Westbury, L. I., N. Y.
" Fluxes, Krembs & Co., 667 W. Ohio, Chicago, Ill.
FLUXO Pneumatic Pumps for Pulverized Material, F. L. Smidth & Co., Inc., 1270 Ave. of The Americas, Rockefeller Center, New York, N. Y.
FLUXOL Pitch, Forest Products Chemical Co., Memphis, Tenn.
FLUXRITE Wire Solder, National Lead Co., Metal Div., New York, N. Y.
FLUXTIC Fluxes, Acme Northeast Type & Supply Co., Everett, Mass.
FLUXVALVE, Pickering & Co., Inc., Plainview, L. I., N. Y.

Red Horse Industrial Grease, Mobil Oil Co., New York, N. Y.
" SAUCER Airboats, Banks-Maxwell Propeller Co., Ft Worth, Texas.
" SAUCER Chick Brooder, James Mfg. Co., Fort Atkinson, Wis.
" SAUCER Pelletizing & Mixing Discs, Dwight-Lloyd Div. McDowell-Wellman Engineering Co., Cleveland, Ohio.
" SAUCER Postal Scale, Dinsmore Instrument Co., Flint, Mich.
FLYING SCOT Open Side Planers, G. A. Gray Co., 3611-T Woodburn Ave., Cincinnati, Ohio.
" SCOUT Steel Wheel Skates, Chicago Roller Skate Co., 4449 W. Lake, Chicago, Ill.
" SPOT Recorders, Alden Electronic & Impulse Recording Equipment Co., Westboro, Mass.
FLYNN Gas Burners, Flynn Burner Corp 432 Fifth Ave., New Rochelle, N. Y.
FLYNNTAN Sheep, Cowhide & Horsehide Leather, John & Sons, Salem, Mass.
FLYSTOP Air Curtain, Miniveil Div. of Berner Industries, Inc., Industries Inc., P. O. Box 349-T, New Castle, Pa.
FLYTEMATE Luggage, Hartmann Luggage Co., Lebanon, Tenn.
FLYTOMETER Flight Instrument, Lorenzen Industries, Lake & Thomas, Niles, Mich.
FLYWEIGHT Aluminum Ladder Jack, Stinson Mfg. Co., Inc., Spokane, Wash.
FLYWEIGHT Luggage, Oshkosh Luggage Co., New York, N. Y.
FOAM A Barytes, De Lore Div. National Lead Co., Iron Mt. Trocks & River Des Peres, St. Louis, Mo.
" AIR Headrests, Densco, Inc., Denver, Colo.
" -DET High Foaming Detergent, Oakite Products Inc., Berkeley Heights, N. Y.
" EASE Foot Pads, Cushions & Shields, Scholl Mfg. Co., Inc., Chicago, Ill.
" EASE Mattresses, Wm. Intner Co., Glendale, N. Y.
" -EZE Invalid Rings, Guardian Products Co., Inc., North Hollywood, Calif.
" -FLEECE Mattress Pads, Seelig Specialties Co., New Orleans, La.
" -FLEX Foam Insoles, L. Karno & Co., Inc., 730 W. 13th St., Chicago, Ill.
" -FOLDERS, Republic Packaging Co., Chicago, Ill.
FOAM-MAKER A System For Making Mechanical Foam, Cardox Div. of Chematron Corp., Dept. TR, 840 N. Michigan Ave., Chicago, Ill.
" MASTER Plastic Foam Machine, Crown Machine & Tool Co., Arlington, Texas.
" O K Fen Rug Shampoo, Pioneer Mfg Co., Cleveland, Ohio.
" PLUG Pipe Plugs, Tejas Plastics, Fort Worth, Texas.
" SHAMPOO Rug & Fabric Cleaner, Golden Star Polish Mfg Co., No. Kansas City, Mo.
" -TEX Cleaner, No-Dl Products Co., Cleveland, Ohio.
" UP Detergent, Baum's Castorine Co., Inc., Baum's Bldg., Rome, N. Y.
FOAMADE Pressure Sensitive Urethane Foam Tape, Foamade Industries, 1215 Morse, Royal Oak, Mich.
FOAMALL Cleaning Compound Dispenser, DuBois Chemicals Div. of W. R. Grace & Co., 630 Broadway, Cincinnati, Ohio.
" Foamed Polyurethane Resin, Woodall Industries, Inc., 7557 E. McNichols Rd., Detroit, Mich.
FOAMALONE Foam Type Upholstery & Rug Cleaner, Interstate Household Maintenance Co., Detroit, Mich.
FOAMASTER, Atlas Machinery Corp., Sub. of The Spencer Turbine Co., 840 Metropolitan Ave., Brooklyn, N. Y.
" Sleepmaster Products Co., Inc., Newark, N. J.
FOAMAWAY Rug & Carpet Cleaner, The Selig Chemical Industries Inc., 350 Marietta, N. W., Atlanta, Ga.
FOAMAX Foam Dielectric Coaxial Cables, ITT Wire & Cable Div. International Telephone & Telegraph Corp., Saratoga & Grand Ave., Pawtucket, R. I.
FOAMCANS Cushioned Package Protection, Donray Products Co., Cleveland, Ohio.
FOAMCOR Insulated Swinging Traffic Doors, W. B. McGuire Co., Inc., P. O. Box 539, Plattsburgh, N. Y.
FOAMCOTE Carpet Underlayment, Crown Rubber Co., Fremont, Ohio.

" Egg Candlers, Metallic Arts of New England, Inc., Cambridge, Mass.
FOCAL-LITE Portable Hand Light, Focal Co., Downey, Calif.
FOCALITES, Amplex Div., Carle Place, N. Y.
FOCITRONIC Long Standoff Optical Non-Contact Measurement, Mechanical Technology Inc., Instruments Div., 968-70 Albany-Shaker Rd., Latham, N. Y.
FOCO-CRANE Hydraulic Crane, Focowil Corp., Chicago, Ill.
" FLAR Reflector Flares, Gleason Corp., Anthes Div., 2266 Prospect Ave., Milwaukee, Wis.
FOCUS Glass Cleaner, Water Soluble Products Div., Chicago, Ill.
" Office & Conference Seating, Harter Corp., Prairie Ave. at Runyan, Sturgis, Mich.
FODA Color Process Separation, Foote & Davies Div., Doraville, Ga.
FO-DI-CO Products Food Display Covers, Food Display Cover Co., Transportation Bldg., Indianapolis, Ind.
FOERG'S Remedy, Chas. Leich & Co., Evansville, Ind.
FOG Sprayers, H. D. Hudson Mfg. Co., 587-91 E. Illinois St., Chicago, Ill.
" Steam Cleaning Compound, Lester Laboratories Inc., Atlanta, Ga.
" AIRE Dairy Barn Foggers, Gallo Mfg. Co., Racine, Wis.
" -AIRE Evaporator, Pioneers, Inc., Oakland, Calif.
" CHIEF Nozzles, Powhatan Brass & Iron Works, Ranson, W. Va.
" CUTTER Rainwear, Burr & Votaw, San Francisco, Calif.
" DRIVE FIRE FIGHTER Fire Pump, Food Machinery, Corp., San Jose, Calif.
" FOAM Firefighting Nozzles, Bliss-Rockwood, A Div E. W. Bliss Co., 50 Harlow St., Worcester, Mass.
" FREE Anti-Fog Liquid, Industrial Products Co., 2816 N 4th St, Philadelphia, Pa.
" FRFE Goggles, H. L. Bouton Co., Inc., Scenic Hwy., Buzzards Bay, Mass.
" HOG Deluge Nozzles, Akron Brass Co., 1450 Spruce, Wooster Ohio.
" HORN Auto Horn, Jubilee Mfg Co., Omaha, Neb.
FOGJET Spray Nozzles, Spraying Systems Co., 3223 Randolph St., Bellwood, Ill.
FOGPRUF Goggle Lens Cleaner & Fog Preventive, Mine Safety Appliances Co., 230 N. Braddock Ave., Pittsburgh, Pa.
FOGSECT Insecticide, Spray, Inc., East Orange, N. J.
FOGSTREAM Fire Hose Nozzles, Western Fire Equipment Co., 69 Main at Mission, San Francisco, Calif.
FOIL BRITE Ohio Bronze Powder Co., Cleveland, Ohio.
FOIL BUTT SEAM Resistance Welders, Precision Welder & Flexopress Corp., 3518 Ibsen Ave., Cincinnati, Ohio.
" COTE Metallized Paper Bags, Bagcraft Corp. of America, Chicago Ill.
" -FLEX Embossing, Foilcraft Printing Corp., New York, N. Y.
" PLATE Adhesive Backed Metal Labels, Nelson Nameplate Co., W. Casitas Ave. at Minnesopolis St., Los Angeles, Calif.
" Powdered Germicide Disinfectant Concentrate To Be Mixed With Water, Service Industries, 2101 E. Somerset, Philadelphia, Pa.
" -TITE effective Insulation, Consolidated Bag & Foil Div. Republic Foils, Inc., 562 Windsor, Somerville, Mass.
" TUMBLER Seals, Aluminum Seal Co., Richmond, Ind.
FOILBRITE Flexographic Ink, Benzing Bros. & Downey Sales Co., Philadelphia, Pa.
FOILCALS Pressure Sensitive or Solvent Activated Adhesive .003" Aluminum Nameplates, Miller Dial & Name Plate Co., El Monte, Calif.
FOILCRIMP Aluminum Packaging Foil, Machinery, Kaiser Aluminum & Chemical Corp., Oakland, Calif.
FOILGARD Colored Aluminum Roof Coating, Foy-Johnston, Inc., 1775 Mentor Ave., Cincinnati, Ohio.
FOILINE Boxes, Continental Can Co., Paper Products Operations Group, New York, N. Y.
FOILLE Antiseptic Emulsion for Burns, Carbisulphoil Co., Dallas, Texas.
" Treatment for Burns, Mine Safety Appliances Co., 230 N. Braddock Ave., Pittsburgh, Pa.
FOILPAK Pouch Papers, Marvellum/Ludlow Plastics, 12 Appleton, Holyoke, Mass.
FOKKER Bond Tester, Shur-Lok Corp., 1300-04 E. Normandy Pl., Santa Ana, Calif.
FOL DOOR Folding Doors & Partitions, Holcomb & Hoke Mfg. Co., Inc., Indianapolis, Ind.

Figure 10A. Thomas Register, Volume VII, American Trademark Index, page 155

Your answer is that TR does not give that information. You are correct. The American Trademark Index in Volume 7 is an alphabetically arranged list of names under which various products are stamped, labelled, and advertised. The Index is not limited to registered trademarks, however; many of the names listed, perhaps a majority, are not registered. Turn to the next question on page 39.

Your answer is that you would consult the American Trademark Index in Volume 7. You are wrong. The patron asked if certain trademarks are registered. The American Trademark Index is not limited to registered trademarks. Many of the names listed, perhaps a majority, are not registered. Return to the question on page 33 and pick the correct answer.

Your answer is that you would need additional information from the patron. You are wrong. There is no amount of additional information that will enable you to determine from TR whether or not trademarks are registered. The American Trademark Index in Volume 7 is not limited to registered trademarks. Many of the names listed, perhaps a majority, are not registered. Turn back to page 33 and choose the correct answer.

Question

A patron insists that there is a newly organized company in Cleveland, Ohio, that manufacturers abrasive compounds. He would like the company's name and address. The company is not listed in the classified section of TR. How would you go about obtaining the information? Choose the correct answer and turn to the appropriate page.

40. Look in the Supplement to TR

41. Look in the Addendum to TR

43. Consult Poor's Register

Your answer is that you would look in the Supplement to TR. You are guessing. There is no TR Supplement. Return to the question on page 39 and pick another answer.

Your answer is that you would look in the Addendum to TR. You are correct. Study Figure 11 (page 1690, addendum of the product classifications section), and then go on to the next question.

Question

Write the name and address of a Cleveland manaufacturer of abrasive compounds, then turn to page 44 to be sure your answer is correct.

_____

_____

(Computers: Analog & Digital—Con.)

N Y: COLLEGE POINT
Belock Instrument Corp 112-03 14th Av (Analog) .....AAAA
N Y: FARMINGDALE L I
Magnusonics Industries Inc 68 Toledo (Magnetic Heads, Tape Transports).....A
N Y: FLUSHING
Transmagnetics Inc 134-10 36th Rd (Converters) X
N Y: GREAT NECK
Dynalog Electronics Corp (Digital) X
Sperry Gyroscope Co Div Sperry Rand Corp AAAA
N Y: PLAINVIEW L I
AEROFLEX LABORATORIES INC R Z South Service Rd (Reconnaissance Systems) ..AAAA
Digital Electronics Inc Engineers Hill.....A
N Y: TROY
DUFFERS ASSOCIATES INC R D 4 P O Box 109-T .....A

WELD ENERGY COMPUTERS

Measures and gages resistance welding current, voltage and power on primary and secondary—for laboratory and production applications.

DUFFERS ASSOCIATES, INC.
R. D. 4, Box 109-T • TROY, N. Y. 12180

OHIO: CLEVELAND
Hickok Electrical Instrument Co Dupont & Williams Sts (Digital) .....AAAA
Victoreen Instrument Co 10101 Woodland (Digital) .....AAAA
OHIO: GALION
North Electric Co 570 S Market.....AAAA
OHIO: WICKLIFFE
Bailey Meter Co .....AAAA

ANALOG AND DIGITAL COMPUTERS

Bailey manufactures a complete line of electronic analog, digital, and multi-computer systems for industrial process control. Each system is custom built using standardized, interchangeable, solid-state modules for simplified maintenance and future expansion. Bailey's new 855 Digital Process Control Computer offers unmatched flexibility, low cost, and on-line, real-time capability. Over 50 years of design, manufacturing, and application experience assure you of optimum performance and reliability.

Bailey **BAILEY METER CO.**
WICKLIFFE, OHIO 44092

ORE: PORTLAND
Argonaut Assoc Inc 3104 S W 87th Av (Analog Only) X
Electro Scientific Industries Inc 13910 N W Science Park Dr (Complex Algebraic)..AAAA
PA: AMBLER
Lawrence Systems Corp 258 N Main.....X
PA: FORT WASHINGTON
HONEYWELL Virginia Dr . .....AAAA

For fast information call the office nearest you as listed in volume VII
or write:
Honeywell
Fort Washington, Pennsylvania 19034

PA: HUNTINGDON VALLEY
Roback Corp .....AA
PA: PHILADELPHIA
Leeds & Northrup Co Rockland & Stenton Avs (Process) .....AAAA
TEXAS: AUSTIN
Electro-Mechanics Co P O Box 1546.....A
TEXAS: DALLAS
Geotronic Labs Inc 1207 Eldorado.....X
Texas Instruments Inc P O Box 6015....AAAA
VA: RICHMOND
Giannini Scientific Corp Flight Research Div P O Box 1F (Encoders) .....AAAA

★COMPUTERS: ELAPSED TIME

(see Recorders: Time)

N J: FRANKLIN LAKES
RAMAPO PRECISION INSTRUMENTS CO INC 541 Commerce .....B
N J: HANOVER
CAUCULAGRAPH CO 272 Ridgedale Av....AAA (Computes working time [elapsed time]. Shows starting and finishing time and prints all three on job card.)
PA: FORT WASHINGTON
HONEYWELL Virginia Dr .....AAAA

COMPUTERS: PROCESS CONTROL

LOOK FIRST TO FOXBORO

Digital Computing Systems

The Foxboro Digital Systems Division offers industry highly technical knowledge and practical equipment — two essentials for effecting new concepts of economics made possible by digital systems.

A seasoned, competent staff provides complete service from analysis, programming, system design to equipment necessary for a qualified, job-designed digital system. Bulletin L-17.

THE FOXBORO COMPANY • Digital Systems Division
86 Neponset Avenue, Foxboro, Mass. 02035

CALIF: CAMARILLO
Three M Company Revere Mincom Div 300 S Lewis Rd .....AAAA
CALIF: CONCORD
Systron-Donner Corp Galindo.....AAAA
COLO: ARVADA
AUTO-TROL CORP 6623 W 56th Av.....X
CONN: BRIDGEPORT
Consolidated Electrodynamics 706 Bestwick Av (Function Modules) .....AAAA
CONN: NORWALK
Norden Div .....AAAA
CONN: WATERBURY
Bristol Co The 117 Bristol Rd.....AAAA
FLA: MELBOURNE
Radiation Inc .....AAAA
ILL: CHICAGO
Hallicrafter Co The 4401 W 5th Av.....AAAA
ILL: MORTON GROVE
General Precision Inc Industrial Controls Div 6511 Oakton .....AAAA
MASS: BOSTON
Adage Inc 1079 Commonwealth Av.....A
MASS: EAST NATICK
Feedback Controls Inc Div of N Y Airbrake Co 8 Erie Drive .....A
MASS: FOXBORO
Foxboro Co The 86 Neponset Av.....AAAA
MASS: MAYNARD
Digital Equipment Corp .....AAAA
N J: DOVER
Kentronics Co 3 George.....B
N J: NEW BRUNSWICK
Procedyne Corp 219 Somerset X
N J: SUMMIT
Shepard Laboratories Inc 482 Morris Av (Line Printers for Computers) X
N J: WEST LONG BRANCH
Electronic Associates Inc 185 Monmouth Park Hwy .....AAAA
Kearfott Div 1150 McBride Av.....AAAA
N Y: BINGHAMTON
General Precision Inc Link Group (Hillcrest) (Special Purpose Digital) .....AAAA
N Y: BUFFALO
Amherst India Corp 869 Niagara Falls Blvd..X
N Y: COLLEGE POINT
American Rectifier Corp 116-17 15th Av..AAAA
Belock Instrument Corp 112-03 14th Av..AAAA
N Y: LONG ISLAND CITY
Ford Instrument Co 31-00 Thompson Av..AAAA
Lear Siegler Inc Data & Control Div 34-01 38th Av .....AAAA
N Y: NEW YORK CITY
Bunker-Ramo Corp 277 Park Av (Numerica Control) .....AAAA
Radio Corp of America 32 Rockefeller Plaza AAAA
N Y: PLAINVIEW
Digital Electronics Inc Engineers Hill.....A
N Y: SCHENECTADY
General Electric Co River Rd.....AAAA
OHIO: CLEVELAND
Gilmore Industries Inc 3355 Richmond Rd AAAA
OHIO: WICKLIFFE
Bailey Meter Co .....AAAA
ORE: PORTLAND
Electro Scientific Industries Inc 13910 N W Science Park Dr (Poles & Zeroes Analyzer Plotter) .....AAAA
PA: FORT WASHINGTON
HONEYWELL Virginia Dr .....AAAA
PA: NORRISTOWN
Navigation Computer Corp Rittenhouse & Van Buren Rds X
PA: PHILADELPHIA
Philco Ford Corp "C" & Tioga Sts (Industrial & Military) .....AAAA
W VA: FAIRMONT
Electronic Control Systems Inc Electronics Rd AAA

changeable, solid-state modules for simplified maintenance and future expansion. Bailey's new 855 Digital Process Control Computer offers unmatched flexibility, low cost, and on-line, real-time capability. Over 50 years of design, manufacturing, and application experience assure you of optimum performance and reliability.

Bailey **BAILEY METER CO.**
WICKLIFFE, OHIO 44092

ORE: PORTLAND
Argonaut Assoc Inc 3104 S W 87th Av (Analog Only) X
Electro Scientific Industries Inc 13910 N W Science Park Dr (Complex Algebraic)..AAAA
PA: AMBLER
Lawrence Systems Corp 258 N Main.....X
PA: FORT WASHINGTON
HONEYWELL Virginia Dr . .....AAAA

For fast information call the office nearest you as listed in volume VII
or write:

Honeywell
Fort Washington, Pennsylvania 19034

The Foxboro Digital Systems Division offers industry highly technical knowledge and practical equipment — two essentials for effecting new concepts of economics made possible by digital systems.

A seasoned, competent staff provides complete service from analysis, programming, system design to equipment necessary for a qualified, job-designed digital system. Bulletin L-17.

THE FOXBORO COMPANY • Digital Systems Division
86 Neponset Avenue, Foxboro, Mass. 02035

CALIF: CAMARILLO
Three M Company Revere Mincom Div 300 S Lewis Rd . .....AAAA

Lear Siegler Inc Data & Control Div 34-01 38th Av .....AAAA

N Y: NEW YORK CITY
Bunker-Ramo Corp 277 Park Av (Numerica Control) . .....AAAA
Radio Corp of America 32 Rockefeller Plaza AAAA

N Y: PLAINVIEW
Digital Electronics Inc Engineers Hill.....A

N Y: SCHENECTADY
General Electric Co River Rd.....AAAA

OHIO: CLEVELAND
Gilmore Industries Inc 3355 Richmond Rd AAAA

OHIO: WICKLIFFE
Bailey Meter Co .....AAAA

ORE: PORTLAND
Electro Scientific Industries Inc 13910 N W Science Park Dr (Poles & Zeroes Analyser Plotter) .....AAAA

PA: FORT WASHINGTON
HONEYWELL Virginia Dr .....AAAA

PA: NORRISTOWN
Navigation Computer Corp Rittenhouse & Van Buren Rds X

PA: PHILADELPHIA
Philco Ford Corp "C" & Tioga Sts (Industrial & Military) .....AAAA

W VA: FAIRMONT
Electronic Control Systems Inc Electronics Rd AAA

ADDENDA—Classifications

This Section Contains Listings not Included in Regular Classified Section.
Additional Late Addenda End of Volumes II, III, IV, V and VI

★ABRASIVE COMPOUNDS
OHIO: CLEVELAND
FALCON TOOL CO INC 4521 Brookpark Rd..X

★ABRASIVES: DIAMOND WHEEL
OHIO: CLEVELAND
FALCON TOOL CO INC 4521 Brookpark Rd..X

★ABRASIVES: FLEXIBLE
OHIO: CLEVELAND
FALCON TOOL CO INC 4521 Brookpark Rd..X
OHIO: DAYTON
DAYTON ABRASIVE PRODUCTS INC 735 Windham (Cartridge Rolls, Square & Cross Pads, Pressure-Sensitive Discs).....AAAA

★ABRASIVES: PRESSURE SENSITIVE BACKING
OHIO: CLEVELAND
FALCON TOOL CO INC 4521 Brookpark Rd..X
OHIO: DAYTON
DAYTON ABRASIVE PRODUCTS INC 735 Windham (Pressure-Sensitive Coated Abrasive Discs, Sheets, Strips).....AAAA

ABSORBERS: MOISTURE
N Y: NEW YORK CITY
ELECTRO CHEMICAL CO 206-212 E 128th.AAA

★ACCOUNTING MACHINES
CALIF: SANTA ROSA
GATES ACOUSTINET INC P O Drawer 1406 (Acoustical Cabinets).....A
OHIO: CLEVELAND
ADDRESSOGRAPH MULTIGRAPH CORP 1200 Babbitt Rd (Addressograph Plates, Machines & Systems).....AAAA

★ACOUSTICAL ENCLOSURES
CALIF: SANTA ROSA
GATES ACOUSTINET INC P O Drawer 1406.A

★ACOUSTICAL MATERIALS
MICH: DETROIT
AEROMOTIVE PRODUCT SPECIALTIES CORP N Military & Fisher Freeway.....A
N J: EAST ORANGE
BROKAW CORK CO INC P O Box 283-T (Cork) .....B

ACTIVATORS
N Y: NEW YORK CITY
UNIROYAL INC 1232 Avenue of Americas (Vulcanizing) .....AAAA

★ACTUATORS: LINEAR
ILL: CHICAGO
LENNOR ENGINEERING CO 7345 W Wilson Av X

★ADDRESSING MACHINE PLATES
OHIO: CLEVELAND
ADDRESSOGRAPH MULTIGRAPH CORP 1200 Babbitt Rd.....AAAA

★ADDRESSING MACHINES: SHIPPING TAG
OHIO: CLEVELAND
ADDRESSOGRAPH MULTIGRAPH CORP 1200 Babbitt Rd.....AAAA

★ADHESIVES
N Y: NEW YORK CITY
UNIROYAL INC 1232 Avenue of Americas (Carpet, Rubber-To-Metal, Textile, Paper, Shoe, Wood, Foil, Leather, Fiber, Tape, Tire & Tube Repairing).....AAAA
PA: PITTSBURGH
KOPPERS CO INC 1350 Koppers Bldg (Resorcinol) .....AAAA

★ADHESIVES: PRESSURE SENSITIVE
MICH: DETROIT
AEROMOTIVE PRODUCT SPECIALTIES CORP N Military & Fisher Freeway.....A

★ADVERTISING SIGNS
N Y: NEW YORK CITY
KREBS MERCHANDISING DISPLAYS CORP 619 W 56th.....A

AEROSOLS
OHIO: TOLEDO
ADVANCED PRODUCTS CO 1100 Bush (Electronic Electrical, Automotive, Metal Cleaners) AAAA

AEROSPACE: ACCESSORIES
MICH: DETROIT
AEROMOTIVE PRODUCT SPECIALTIES CORP N Military & Fisher Freeway.....A

AGENTS: MOLD RELEASING
TEXAS: HOUSTON
CHEMOLA CORP P O Box 34215-TR.....AAA

★AGITATORS: ULTRASONIC
N J: HILLSDALE
MICROMAT CO 550 Piermont Av.....B

★AIR CONDITIONER UNITS
MICH: JACKSON
HEAT CONTROLLER INC 1900 Wellworth AAAA

★AIR CONVEYING SYSTEMS
MINN: MINNEAPOLIS
FLO-TRONICS INC 1820 Xenium Lane...AAAA

Figure 11. Thomas Register, Product Classifications, page 1690

Your answer is that you would try Poor's Register. You are not incorrect. In some cases, Poor's Register may be a good choice for this kind of information since it lists the names and addresses of manufacturers under its Industrial Classifications Section. However, if you had consulted Poor's Register, Abrasive Products, you would have found that no Cleveland manufacturer of abrasive products is listed. Return to page 39 and choose the correct answer.

You are correct if your response was the Falcon Tool Co., Inc., 4521 Brook Park Rd., Cleveland, Ohio. The Addendum contains listings that do not appear in the regular classified section.

Turn to the next page.

You have now completed the programmed section of this instruction. On the following pages, you will find a set of review questions that are intended to reinforce what you have learned.

Questions

1. The Thomas Register of American Manufacturers lists all known American manufacturers who sell their products or services in the United States or Canada.

   (A) true (B) false

2. Names of manufacturers are listed in the Thomas Register under multiple product classifications.

   (A) true (B) false

3. The Thomas Register gives a capital or "size" rating to companies whose assets are over $500,000.

   (A) true (B) false

4. The Thomas Register's American Trademark Index lists only registered trademarks.

   (A) true (B) false

5. The Thomas Register is published every five years.

   (A) true (B) false

6. Indexes to products, manufacturers, and advertisers are included in the Thomas Register.

   (A) true (B) false

Turn to page 47 for the correct answers.

Answers

1. (B) false. The correct answer is that TR lists all known American manufacturers who sell their products or services worldwide.

2. (A) true

3. (B) false. The correct answer is that TR gives a capital rating to companies whose assets are over $500.

4. (B) false. The correct answer is that TR lists both registered and unregistered trademarks that are likely to be looked for.

5. (B) false. The correct answer is that TR is published annually.

6. (B) false. The correct answer is that TR has indexes to products and advertisers.

Please turn the page.

As an additional exercise, use TR to obtain the following information: the subsidiaries, affiliates, or controlled concerns of General Motors; General Motor's capital rating; addresses of all General Motor's branch offices of the west coast; address of General Motor's principal office; the name of General Motor's chief executive.

BLLR

LI

REFERENCE TOOLS and SERVICES

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with support from the U.S.
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SDC

INTRODUCTION TO THE USE OF DIRECTORIES:

RESEARCH CENTERS DIRECTORY

This is a form of "programmed text"--that is, in working with it, you must follow the instructions as to which pages to turn to, rather than reading it through, page by page. It contains a series of multiple-choice questions. At the end of each question are numbered answers; the number of each answer is also the number of the page on which that answer is discussed. Don't worry about getting the wrong answers. The text will help you get through the entire series of questions, whether your first answers are right or wrong.

Research Centers Directory

The coverage of the Research Centers Directory is broad and includes listings of research institutes, centers, foundations, laboratories, bureaus, experiment stations, and similar non-profit research facilities, activities, and organizations that are formally identified by specific or distinctive names or titles. Units listed are, in addition, established on a permanent basis as separate entities for carrying on continuing research programs in all fields of endeavor: agriculture, education, the humanities, the social and behavioral sciences, the life sciences, the physical sciences, engineering, and technology. Research activities have been interpreted to include fundamental, applied, and developmental studies, as well as programs of data gathering, analysis, and synthesis.

Supporting service units that operate as separate entities--such as computation centers, statistical laboratories, survey units, information retrieval facilities, and similar activities--are also included. Laboratories and facilities used primarily in instructional programs and internship activities, with research merely of incidental concern are not included. Accordingly, research efforts of individual investigators, informal groups, and teaching departments have been omitted.

The basic information concerning each research center listed in the Research Centers Directory was obtained by the publisher (Gale Research Company) directly from the head or a responsible official of the organizational or its parent institution. In some instances, supplementary data have been obtained from documentary material and secondary sources.

Figure 1 shows the Research Centers Directory and its supplement, New Research Centers.

Figure 1. Photograph of Research Centers Directory (2nd ed) and New Research Centers

New Research Centers is published periodically and contains information on newly established non-profit research centers and on centers that may have inadvertently been missed when the base volume of the Research Centers Directory was published. For example, listings on issues of New Research Centers which updated the second edition of Research Centers Directory (used in the preparation of this unit) have now been incorporated in the recently issued third edition of Research Centers Directory. This new edition will also be updated, as necessary, with issues of New Research Centers. Material in the Research Centers Directory (which we will call RCD) is organized into 23 sections. Turn to Figures 2 and 2-A, which are a reproduction of the table of contents.

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INTRODUCTION 11
Organization of the Directory 13
Contents of Individual Listings 14
"New Research Centers," A Periodic Supplement 15

SECTIONS

1. AGRICULTURE, HOME ECONOMICS AND NUTRITION 17
Including Agronomy, Textiles, Animal Husbandry

2. ASTRONOMY 75
Including Observatories

3. BUSINESS, ECONOMICS AND TRANSPORTATION 87
Including Management, Accounting, Finance

4. CONSERVATION 111
Including Fisheries, Forestry, Marine Science, Wildlife

5. EDUCATION 139
Including Testing, Teaching Materials, Reading, Continuing Education, Adult and Special Education, School Planning

6. ENGINEERING AND TECHNOLOGY 167

7. GOVERNMENT AND PUBLIC AFFAIRS 191
Including Civics, Community and Housing Studies, International Affairs, Planning, Public Administration, Urban Studies, Military

8. LABOR AND INDUSTRIAL RELATIONS 213
Including Occupations, Pensions

9. LAW 221
Including Copyrights, Patents, Trademarks, Legislation

10. LIFE SCIENCES 229
Including Botany, Zoology, Plant Sciences, Medicine, Veterinary Science, Dentistry, Nursing, Biology, Pharmacy, Mental Health

11. MATHEMATICS 319
Including Computer and Data Processing Facilities, Operations Research, Statistics

12. PHYSICAL AND EARTH SCIENCES 351
Including Archeology, Chemistry, Geology, Meteorology, Mining, Nuclear Science, Physics, Electronics

13. REGIONAL AND AREA STUDIES 409

Figure 2. Research Centers Directory - Contents, p. 7

14. SOCIAL SCIENCES, HUMANITIES, AND RELIGION 431
Including Anthropology, Communications, Human Development, Population, Religion, Sociology, History, Ethnic Folklore, Linguistics, Journalism, Creativity, Family Study and Behavior, Race Relations

15. MULTIDISCIPLINARY PROGRAMS 479

16. RESEARCH COORDINATING OFFICES 495

17. ADDENDUM 517
Including listings received too late or with insufficient data for classification

INDEXES

18. INSTITUTIONAL INDEX 531

19. GEOGRAPHIC INDEX OF SPONSORING INSTITUTIONS 561

20. ALPHABETIC INDEX OF RESEARCH CENTERS 569

21. PERSONAL NAME INDEX 615

22. SUBJECT INDEX 639

23. UNIVERSITY PRESSES 663

Figure 2A. Research Centers Directory - Contents (cont.) p.8

Question

A patron enters a library where you are assigned to the reference desk. He asks you for the names and addresses of centers on the east coast engaged in research on urban social problems. You decide that you may obtain this information from RCD.* You turn to the Contents. Which of the 16 functional sections is most likely to have the listing you are seeking? Select the correct answer and turn to the page on which it is listed.

6. Education
7. Government and Public Affairs
8. Social Sciences, Humanities, and Religion

*As indicated earlier, we shall often refer to the Research Centers Directory as RCD.

Your answer is that the information can be obtained by looking in the section on Education. You are wrong. Subjects under the Education heading are shown in the Contents and include testing, teaching materials, reading, continuing education, adult and special education, and school planning. Return to the question on page 5 and select the answer that deals with aspects of city life.

Your answer is that the information can be found in the section on Government and Public Affairs. You are correct. Subjects listed in this section are shown in the Contents and include civics, community and housing studies, international affairs, planning, public administration, urban studies, and military. Urban social problems are considered under urban studies.

Turn to page 9.

Your answer is that you would seek the information in the section on Social Sciences, Humanities, and Religion. You are wrong. Read the Contents again (Figures 2 and 2A) and then turn back to page 5 and select the correct answer.

Question

You have decided that you may obtain for a library patron the names and addresses of centers on the east coast engaged in research on urban social problems from the Government and Public Affairs section of RCD. Study the Contents again (Figures 2 and 2A). Is there another section that you should consult to make sure that your search is comprehensive? Select the best answer and turn to the page containing that answer.

10. There is no other section you need to consult.
11. Business, Economics, and Transportation
12. Addendum

Your answer is that there is no other section you should consult. Wrong. It sometimes happens that listings are brought to the attention of the publisher after the volume has been compiled. Re-read the Contents (Figures 2 and 2A), turn back to the question on page 9, and select an answer that will help you to identify research units that do not appear in the main volume.

Your answer is that you would look in the section on Business, Economics, and Transportation. You are wrong. Study the Contents again (Figures 2 and 2A), turn back to the question on page 9 and select and answer that will help you to identify research units that do not appear in the main volume.

Your answer is that you would consult the Addendum. You are correct. The Addendum includes listings received too late or with insufficient data for classification within the main volume.

Turn to the next page.

An index can often make or break a reference work. A thorough and well thought-out index can mean the difference between a work's being only a fairly useful reference tool or one of the highest utility. RCD has five indexes to ensure maximum usefulness. A description of these indexes is given in Figure 3, on the next page. Study it and then turn to page 15.

FIVE INDEXES ASSURE MAXIMUM USEFULNESS

The RESEARCH CENTERS DIRECTORY has as its main objective the bringing together of specific information and specially-informed individuals with persons or groups in need of or concerned with this information. A seeker after installations or individuals specializing in subjects of interest to him may take several approaches, and the indexes to this volume are designed to assist him in all the more likely ones.

Therefore, in addition to the assistance which is provided by the classified arrangement, the following five indexes have been provided:

1. RESEARCH UNIT INDEX. This index arranges all the centers, bureaus, etc., in the book in a single alphabet according to the names under which they operate.

2. INSTITUTION INDEX. Grouped by sponsoring institutions, individual research units are listed alphabetically. Independent research organizations are included as though they were sponsoring institutions.

3. GEOGRAPHIC INDEX. Sponsoring institutions are arranged geographically on the basis of their principal locations.

4. SUBJECT INDEX. Information given by each center in describing its principal fields of research has been analyzed, and as many specific subjects as possible for each center have been entered in the subject index. Extremely broad or general subjects have been avoided, if information given by the unit listed supported more detailed entries.

5. NAME INDEX. The name of the principal executive of each center in the book has been included (if available) in an alphabetical list which also includes the individual's affiliation and the number of his unit's entry in the book.

CONTENTS OF INDIVIDUAL LISTINGS

Insofar as the information was available, the following items are included in the individual listings:

1. Formal name of the research activity and, where it is an integral unit of or is affiliated with a university or other organization, the name of the parent or affiliated institution. In the case of a recent change in name, the previous name or designation of the activity is also given.

2. Location or mailing address, usually including the ZIP or code number. In some instances the address may not be in the same city or even the same state in which the parent or affiliated institution is located.

3. Telephone number and extension for the main office of the activity.

4. Name and title of the director or head of the activity. Mr. and Miss are omitted, but Dr., Prof., or Rev. is included where known.

5. Year when the activity was established or founded.

6. Present status of the activity, i.e., whether it is an integral unit of a university or other organization or is separately incorporated but affiliated

Figure 3. Research Centers Directory - p. 14

Question

A patron has asked for the names and addresses of centers on the east coast engaged in research on urban social problems. You decide that this information can be obtained from RCD and that the Contents may not be as helpful in quickly locating it as one of the indexes. Which of the indexes would you use to find the information desired? Select the best answer and turn to the page on which it is contained.

17. Research Unit Index

18. Geographic Index

19. Subject Index

You are not following instructions. The lesson did not direct you to this page. Please read the questions more carefully.

Your answer is that you would use the Research Unit Index. You are wrong. This index arranges the centers alphabetically by name. It would not be useful to you, however, because you are seeking the names of centers; you do not already know them. Study Figure 3, turn back to the question on page 15, and select the index that will be most helpful to you on the basis of the information you have.

Your answer is that you would use the Geographic Index. This is not entirely incorrect. However, it is not your best choice. Sponsoring institutions are arranged geographically on the basis of their principal locations. This index would enable you to find all the research centers located on the east coast. You would then need to determine which of these centers engages in research on urban problems. Refer to Figure 3, turn back to the question on page 15 and select the index that will be most helpful to you.

Your answer is that you would use the Subject Index. Correct. The Subject Index contains references to Urban Sociology with SEE ALSO: Community Analysis. You will be able to quickly determine the centers that will fit the patron's needs. Turn to the next page.

Question

A student comes into your library and asks how many joint astronomical programs in the U.S. Government has with Harvard University. Refer to Figures 4 and 4A, (pages 21 and 22) select the best answer to the question, and turn to the appropriate page.

23. five

24. three

25. two

Laboratory in Arecibo, Puerto Rico, for study of the earth's ionosphere out to several thousand miles and, through its observatory, electron density, electron temperature and structure of the earth's magnetosphere.

★ 419 ★
Cornell University
IGY WORLD DATA CENTER A, AURORA VISUAL
420 Hollister Hall
Ithaca, New York 14850 Phone: AR 5-3612
Dr. Carl W. Gartlein, Director Founded: 1957

Government-supported research organization operated at Cornell University under primary control of National Science Foundation and National Academy of Sciences. Supported by National Science Foundation. Staff: 2 research professionals, 1 technician, 4 others. Volume of research: 1963--$30,000.

Conducts research on aurora borealis, including collection of data on visual aurora in the United States, Alaska and Arctic, taking patrol spectrograms and operating all-sky camera in Ithaca and at other sites, also analyzing and storing this data and reduced data from centers in Edinburgh and Moscow.

Research results published occasionally in professional journals and in IGY general publications and in monthly NEWSLETTER to observers. Maintains a library of 100 original volumes and 1400 reprints, also can microfilm copy data.

★ 420 ★
DePauw University
McKIM ASTRONOMICAL OBSERVATORY
Greencastle, Indiana
Dr. Charles H. Johnson, Head

Integral unit of DePauw University. Supported by parent institution.

Principal field of research: Astronomy. Also provides facilities for instruction in astronomy at the University.

★ 421 ★
Georgetown University
GEORGETOWN COLLEGE OBSERVATORY
Washington, D.C. 20007 Phone: FE 7-3300
Rev. Francis J. Heyden, Director Founded: 1841

Integral unit of Department of Astronomy at Georgetown University. Supported by parent institution and U.S. Government. Staff: 9 research professionals, 12 supporting professionals, 1 technician, 2 others. Volume of research: 1962--$55,000; 1963--$50,000.

Principal fields of research: Solar and planetary spectroscopy, photoelectric photometry of stars and photometry of galaxies and variable stars. Also conducts programs of graduate and undergraduate instruction in astronomy.

Research results published in astronomical journals, reprints and monographs. Holds monthly astronomical colloquium from October to May. Maintains a library of 10,000 volumes on astronomy; Dr. Bernice Lamberton, librarian.

★ 422
Harvard University
ASTRONOMICAL OBSERVATORY
Cambridge, Massachusetts 02138
Dr. Donald H. Menzel, Director Founded: 1843

Integral unit of Department of Astronomy at Harvard University. Supported by parent institution and research grants. Staff: 40 research professionals, 12 supporting professionals, 2 technicians, 11 others.

Principal fields of research: Astronomy and astrophysics, including space science, radio astronomy, solar physics and theoretical astrophysics. Maintains a 15-inch telescope for special research projects and utilizes observational data and photographic records and measurements obtained at other collaborating observatories. Also provides for students of the University opportunities for research and training in observational techniques.

Research results published in professional journals. Holds regularly scheduled open nights in spring, summer and fall. Maintains an astronomical library and an extensive collection of photographic plates which are available for use of staff members, students of the University and visiting astronomers.

★ 423 ★
Harvard University
BOYDEN OBSERVATORY
Box 334
Bloemfontein, Union of South Africa
Dr. Donald H. Menzel, Director Founded: 1928

Integral unit of Department of Astronomy at Harvard University. Supported by parent institution. Staff: 3 research professionals, 5 others.

Principal fields of research: Southern hemisphere stellar and planetary studies conducts in conjunction with observatories in five European nations making observations from northern latitudes so that in combination the entire sky is covered. Equipment includes a 60-inch reflector, a 32-inch flat-field Baker-Schmidt telescope and several smaller refractors.

Research results published in professional journals and monographs.

★ 424 ★
Harvard University
HARVARD COLLEGE OBSERVATORY
60 Garden Street
Cambridge, Massachusetts 02138
Dr. Donald H. Menzel, Director Founded: 1936

Integral unit of Department of Astronomy at Harvard University, operated in cooperation with Smithsonian Astrophysical Observatory with joint staff appointments. Supported by parent institution and U.S. Government.

Principal fields of research: Astronomy and astrophysics, including astronomical observations, measurements and analyses.

Research results published in professional journals.

★ 425 ★
Harvard University
RADIO ASTRONOMY STATION
Fort Davis, Texas 79734 Phone: 426-3201
Dr. Alan Maxwell, Director Founded: 1956

Integral unit of Harvard College Observatory at Harvard University. Supported by U.S. Government. Staff: 2 research professionals, 4 supporting professionals, 2 technicians, 3 others.

Principal fields of research: Radio astronomy and solar physics, including studies in solar, planetary, galactic and extra-galactic radio astronomy, also optical observations. Maintains radio telescopes of 85-foot and 28-foot diameters for study of radio frequency portion of electromagnetic spectrum.

Research results published in scientific journals. Maintains a library on radio astronomy, astronomy, radio engineering and solar physics; Mrs. A. Capri, librarian.

Figure 4. Research Centers Directory - p. 79

★ 426 ★
Harvard University
SMITHSONIAN ASTROPHYSICAL OBSERVATORY
60 Garden Street
Cambridge, Massachusetts 02138 Phone: UN 4-7910
Dr. Fred L. Whipple, Director Founded: 1891

Integral unit of Smithsonian Institution located at Harvard University and operated in cooperation with Harvard College Observatory with joint staff appointments. Supported by U.S. Government. Staff: 48 research professionals, 75 supporting professionals, 116 technicians, 96 others.

Principal fields of research: Astronomy and astrophysics, including optical tracking and analysis of earth satellites, meteoritics and space sciences. Maintains 12 Baker-Nunn photographic satellite observing stations located in various parts of the world and a computation and analysis center in Cambridge. Shares library and other facilities with Harvard College Observatory.

Research results published in professional journals, monographs and Government publications. Publications: SMITHSONIAN CONTRIBUTIONS TO ASTROPHYSICS and RESEARCH IN SPACE SCIENCE SERIES. Maintains a library on astronomy and astrophysics; Mrs. Jane Petschaft, librarian.

★ 427 ★
Haverford College
WILLIAM J. STRAWBRIDGE MEMORIAL OBSERVATORY
Haverford, Pennsylvania
Dr. Louis C. Green, Director

Integral unit of Haverford College. Supported by parent institution and research grants.

Principal fields of research: Visual, photographic and spectroscopic observations of sun, moon, planets, stars and nebulae, galactic dynamics and astrophysics. Also provides facilities for instruction in astronomy at the College. Facilities include 3 equatorially mounted telescopes, a 10-inch and a 4 1/2-inch refractor and a 6-inch reflector, a reflecting telescope with 8-inch mirror and altazimuth, a meridian circle telescope, a zenith telescope, an astrographic mounting with 2 4-inch Ross lenses, sidereal clocks, a chronograph and other instruments.

Maintains a reference library on astronomy, astrophysics and spectroscopy.

★ 428 ★
Hobart and William Smith Colleges
SMITH OBSERVATORY
Geneva, New York
Dr. John Hovorka, Head Founded: 1887

Integral unit of Department of Physics at Hobart and William Smith Colleges. Supported by parent institution. Staff: 1 research professional, 1 supporting professional.

Principal fields of research: Automatic image stabilization and stellar scintillation. Maintains a 10-inch refractor telescope in dome and a library of 200 volumes on physics and astronomy; Constance Brewer, librarian.

★ 429 ★
Indiana University
GOETHE LINK OBSERVATORY
Brooklyn, Indiana Phone: VE 1-0668
Dr. Frank K. Edmondson, Director Founded: 1937

Integral unit of Astronomy Department at Indiana University, located 35 miles northeast of University campus. Supported by parent institution and U.S. Government. Staff: 4 research professionals, 2 supporting professionals, 3 technicians, 2 others.

Principal fields of research: Asteroid positions and magnitude, photoelectric and photographic photometry, stellar spectroscopy and theoretical astrophysics, including astrometric and photometric studies of asteroids, galactic structure and stellar motions. Also provides instruction in astronomy at the University and facilities for faculty and graduate student research.

Research results published in professional journals. Publication: PUBLICATIONS OF THE GOETHE LINK OBSERVATORY (irregularly). Holds periodic public nights at the Observatory and weekly colloquia at the University. Maintains a small working library of 700 volumes devoted primarily to astronomy; Olga Turchyn, librarian.

★ 430 ★
LOWELL OBSERVATORY
Box 1269
Flagstaff, Arizona Phone: 774-3358
Dr. John S. Hall, Director Founded: 1894

Independent nonprofit research organization with its own board of control. Supported by Percival Lowell Endowment Corporation. Staff: 7 research professionals, 7 supporting professionals, 5 technicians, 4 others. Volume of research: 1961--$300,000; 1962--$325,000; 1963--$325,000.

Principal field of research: Astronomy, including observations of the planets and studies in photoelectric photometry, proper motions of stars and electronic intensification of starlight. Maintains a 24-inch refractor, 21-inch, 42-inch and 62-inch reflectors, a 13-inch photographic telescope and a 24-inch Ronnie Morgan telescope.

Research results published in astronomical and astrophysical journals. Publication: LOWELL OBSERVATORY BULLETIN. Holds local seminars as research warrants. Maintains a library of 100,000 volumes on astronomy, mathematics and physics.

★ 431 ★
MARIA MITCHELL OBSERVATORY
Vestal Street
Nantucket, Massachusetts 02554
Dr. Dorrit Hoffleit, Director Founded: 1908

Integral unit of Nantucket Maria Mitchell Association, an independent nonprofit organization with its own board of control. Supported by parent institution and U.S. Government. Staff: 1 research professional, 1 other, plus volunteer college student assistants. Annual volume of research: $6,000.

Principal field of research: Astronomy, mainly on variable stars, including their discovery, characteristics of variability and periods of fluctuation. Maintains a 7 1/2-inch photographic refractor.

Research results published in astronomical journals and annual reports of the Association. Holds regular weekly seminars on variable stars throughout the summer, also weekly public open nights.

★ 432 ★
NATIONAL RADIO ASTRONOMY OBSERVATORY
P.O. Box 2
Green Bank, West Virginia 24944 Phone: Arbovale 456-2011
Dr. David S. Heeschen, Director Founded: 1958

Integral unit of Associated Universities, Inc., a nonprofit research organization sponsored by 9 northeastern universities; operated under contract with National Science Foundation. Supported by U.S. Government. Staff: 17 research professionals, 8 supporting professionals, 52 technicians, 69 others.

Principal field of research: Radio astronomy, including studies on

Figure 4A. Research Centers Directory - p. 80

Your answer is five. You are wrong. It is correct that there are five astronomical programs conducted in affiliation with Harvard University. They are: Harvard University Astronomical Observatory; Boyden Observatory, Bloemfontein, Union of South Africa; Harvard College Observatory; Harvard University Radio Astronomy Station, Fort Davis Texas; and the Smithsonian Astrophysical Observatory. However, all of these are not conducted with support from the U.S. Government. Refer to Figures 4 and 4A, turn back to the question on page 20, and select the correct answer.

Your answer is three. You are wrong. It is true that there are three astronomical projects affiliated with Harvard University that receive U. S. Government support. They are: Harvard College Observatory; Harvard University Radio Astronomy Station; and the Smithsonian Astrophysical Observatory. However, the latter is an integral unit of the Smithsonian Institution although located at Harvard. Refer to Figures 4 and 4A, turn back to the question on page 20, and choose the correct answer.

Your answer is two. You are correct. The Harvard College Observatory, an integral unit of the Department of Astronomy at Harvard, is operated in cooperation with the Smithsonian Astrophysical Observatory, an integral unit of the Smithsonian Institution, with joint staff appointments. Joint research is supported by the U.S. Government. The Harvard University Radio Astronomy Station, Fort Davis, Texas, is supported by the U.S. Government.

Turn to the next page.

Question

A patron enters your library and asks the principal areas of research of the Wistar Institute. He also wants to know whether public meetings on Wistar Institute research are held, the extent of the research capability, the source of funding, and whether reports on Wistar research results are available. Where would you most quickly find the Research Centers Directory entry on the Wistar Institute? Choose the correct answer and turn to the page that contains that answer.

27. Contents

28. Subject Index

29. Institutional Index

Your answer is that you would check the Contents. You are wrong. There is no information there that you will find helpful in this particular case. Refer to Figure 3, turn back to the question on page 26, and select the correct answer.

Your answer is that you would use the Subject Index. Wrong. The subject of research is what you are trying to determine. You do not have the necessary information to use this index. Refer to Figures 4 and 4A, turn back to the question on page 26, and select an alternative.

Your answer is that you would use the Institutional Index. You are correct. The Wistar Institute is listed in its alphabetical place. Turn to the next page.

Figure 5 shows the RCD entry for the Wistar Institute. Read it. Use the information to answer the questions below. Then, turn to page 32 to see whether your answers are correct.

a) Are public meetings held at the Wistar Institute?_____

b) What was the dollar volume of research for 1963? _____

c) How is Wistar Institute supported? _____

_____

d) Are reports on Wistar Institute research results available to the public? _____

e) What is the name of the director? _____

f) When was Wistar Institute founded? _____

★ 1823 ★
William Jewell College
HERBARIUM
Liberty, Missouri 64068 Phone: ST 1-3866 x49
Dr. L. J. Gier, Curator Founded: 1877

Integral unit of Department of Biology at William Jewell College Supported by parent institution. Staff: 1 research professional.

Principal fields of research: Local flora and bryophytes of Peru, also effects of microenvironment on species.

Research results published in professional journals.

★ 1824 ★
WISTAR INSTITUTE OF ANATOMY AND BIOLOGY
36th and Spruce Streets
Philadelphia 4, Pennsylvania Phone: BA 2-6700
Dr. Hilary Koprowski, Director Founded: 1894

Independent nonprofit research and graduate training organization with its own board of control. Supported by U.S. Government and research grants. Staff: 33 research professionals, 30 supporting professionals, 43 technicians, 116 others. Volume of research: 1961--$800,000; 1962--$950,000; 1963--$1,000,000.

Principal field of research: Cell biology, including studies of cancer, virology, tissue culture, transplantation immunology and atherosclerosis, concerned with normal aging of cells and malignant cells, also biological, biochemical and biophysical approaches to basic problems of biological and medical research. Maintains an anatomical museum used for teaching purposes in anatomy, anthropology, dentistry and nursing, also an animal colony and glassware preparation and photography departments.

Research results published in scientific journals. Publications: JOURNAL OF MORPHOLOGY (6 times a year), JOURNAL OF EXPERIMENTAL ZOOLOGY (9 times a year), JOURNAL OF NUTRITION (monthly), JOURNAL OF COMPARATIVE NEUROLOGY (6 times a year), AMERICAN JOURNAL OF ANATOMY (6 times a year), JOURNAL OF CELLULAR AND COMPARATIVE PHYSIOLOGY (6 times a year), ANATOMICAL RECORD (monthly) and AMERICAN JOURNAL OF PHYSICAL ANTHROPOLOGY (quarterly). Holds a monthly virology seminar open to everyone, a monthly staff seminar and graduate student seminars open to Wistar Institute members and special seminars in field of cell biology on appropriate occasion of visiting scientists open to everyone. Maintains a library of 10,000 volumes on scientific subjects including cancer, virology and biochemistry; William Purcell, librarian.

★ 1825 ★
WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY
222 Maple Avenue
Shrewsbury, Massachusetts Phone: VI 2-8921
Dr. Hudson Hoagland, Executive Director Founded: 1944

Independent nonprofit research and educational organization with its own board of control. Supported by U.S. Government, industry and foundations. Staff: 99 research professionals, 28 supporting professionals, 80 technicians, 58 others. Volume of research: 1961--$2,770,000; 1962--$3,280,000; 1963--$3,800,000.

Principal fields of research: Brain function and behavior, cancer, cardiovascular and metabolic diseases, endocrinology of aging and physiology of reproduction, including studies on schizophrenia, effects of alcohol on brain function, body tissue and metabolism, actions of antidepressant drugs, female reproductive tract, control of ovarian functions, relation of hormonal function to age and bacterial dehydrogenation, also biosynthesis of steroid hormones. Also provides a postgraduate training program in physiology of reproduction, a continuing postgraduate educational program in steroid chemistry in collaboration with Clark University and collaborative instructional and research programs with neighboring medical schools, especially in Boston area.

Research results published in scientific journals. Holds special seminars for own staff and staffs of neighboring institutions and special summer training programs. Maintains an extensive library; Mrs. Barbara Banay, librarian.

★ 1826 ★
WORLD LIFE RESEARCH INSTITUTE
23000 Grand Terrace
Colton, California Phone: TA 5-4773
Dr. Bruce W. Halstead, Director Founded: 1959

Independent nonprofit research organization with its own board of control. Supported by U.S. Government, industry and donations from individuals. Staff: 2 research professionals, 1 other. Volume of research: 1961--$70,000; 1962--$57,000; 1963--$65,000.

Principal fields of research: Marine biotoxicology, ethnobotany and terrestrial phytochemistry in a search for new drugs from natural resources, especially organic chemical agents derived from plants or animals having application to therapeutic medicine and human nutrition. Maintains extensive foreign contacts in 6,000 regions of the world, particularly underdeveloped areas in Asia and Latin America, in search of new drugs. Also provides consultation and evaluation services to government agencies and industry on biotoxic and phytochemical substances.

Research results published in scientific journals and books. Maintains a library of 6,000 items, mainly reprints on biotoxicology.

★ 1827 ★
Yale University
BINGHAM OCEANOGRAPHIC LABORATORY
P.O. Box 2025, Yale Station
New Haven, Connecticut Phone: ST 7-3131
Dr. Daniel Merriman, Director Founded: 1930

Integral unit of Yale University. Supported by parent institution and research grants.

Principal fields of research: Biological and physical oceanography of Long Island Sound and elasmobranch life history.

Research results published in scientific journals and monographs. Maintains an extensive library of books, reprints, maps, atlases and microcards on oceanography, ichthyology, ecology, limnology and marine biology; Mrs. Maurice J. Strauss, librarian.

★ 1828 ★
Yale University
CHILD STUDY CENTER
333 Cedar Street
New Haven, Connecticut 06511 Phone: 562-1161 x2140
Dr. Milton J. E. Senn, Director Founded: 1948

Integral unit of School of Medicine at Yale University. Supported by parent institution, U.S. Government and private foundations. Staff: 5 research professionals, 13 supporting professionals, 1 technician, 8 others.

Principal fields of research: Child development and behavior, including multidisciplinary studies on various aspects of child development from the newborn period into adolescence, with particular attention to autism, moral and ethical development, cognition and perception. Affiliated with other departments of School of Medicine and Graduate School at the University. Also participates in training programs for child psychiatrists, pediatricians, psychologists, educators and social workers.

Research results published in pediatric, psychoanalytic and psychiatric journals.

You are correct if you gave the following answers:

a) Yes. A monthly virology seminar is open to the public.

b) $1,000,000

c) U. S. Government and research grants

d) Yes. Results are published in scientific journals.

e) Dr. Hilary Koprowski

f) 1894

Turn to page 33.

Question

The patron at your library asks whether you can also tell him, from the base volume of the RCD, the number of staff members at the poliomyelitis research unit established at the Wistar Institute in Fall 1968. What would be the best way to answer the question? Select the best answer and turn to the corresponding page.

34. Look in the Subject Index under poliomyelitis.

35. Check the Addendum.

36. RCD does not provide that information.

Your answer was that you would look in the Subject Index under poliomyelitis. You are wrong. You had already read the entry for Wistar Institute (Figure 5). It did not refer to a poliomyelitis study unit. Re-read the question on page 33 and choose another answer.

Your answer is that you would check the Addendum. Wrong. The second edition of Research Centers Directory including the Addendum was published in 1965. The patron has asked about a research unit established in Fall 1968. Return to the question on page 33 and select the correct answer.

Your answer is that base volume of the RCD does not give the information you seek. You are correct. The current volume was published in 1965. Obviously, a research unit established in Fall 1968 would not be included.

Turn to the next page.

Question

A patron asks for the name of the librarian at the Environmental Design Center, University of W sconsin. The Center was founded in 1965. He wants to request preprints of articles discussing research results. The Center is not listed in RCD's alphabetical index of research results. How would you respond to this request? Select the correct answer and turn to the appropriate page.

38. Look in the current general catalog for the University of Wisconsin.

39. Look in the Addendum of RCD.

40. Refer to RCD's periodic supplements.

Your answer is that you would refer to the current general catalog for the University of Wisconsin. This is a good choice, but many libraries may not have the catalog. Turn to the preferred answer, which is on page 40.

Your answer is that you would look in RCD's Addendum. You are wrong. The current (second) edition of RCD, including the Addendum, was published in 1965. Since the Environmental Design Center was not founded until 1965, information about it would not appear even in the Addendum. Turn back to the question on page 37 and select another answer.

Your answer is that you would refer to RCD's periodic supplements. You are correct. New Research Centers is published periodically and contains information on newly established nonprofit research centers and on centers that may have inadvertently been missed when the base volume of the RCD was published.

Turn to the next page.

You have now completed the programmed instruction.

On the following page, you will find a set of questions for review purposes.

Questions

1. The Research Centers Directory includes centers for fundamental and applied studies in the mathematical, physical, life, engineering, and social science, as well as instructional programs that include laboratories and research activities.

   (A) true (B) false

2. Names of the principal executives in leading U.S. developmental laboratories can most easily be found in RCD by looking in the index that lists research units.

   (A) true (B) false

3. RCD contains three indexes.

   (A) true (B) false

4. New Research Centers is a periodical supplement to the Research Centers Directory that contains information on newly established nonprofit research centers.

   (A) true (B) false

5. The Addendum to RCD contains information that supplements data already contained in citations.

Turn to the next page for the correct answers.

Answers

1. (B) false. The Research Centers Directory does not include either instructional programs or internship activities. It does include centers for data gathering in addition to those listed.

2. (A) true

3. (B) false. The correct answer is that RCD contains five indexes: research units, institutions, geographic location of institutions, subjects, and names.

4. (A) true

5. (B) false. The correct answer is that the Addendum to RCD includes listings received too late or with insufficient data for classification within the main volume.

Turn to the next page.

As an additional exercise, use the Research Centers Directory (2nd ed.) and its supplements to obtain the following information:

Which companies in the Greater Chicago area have information retrieval facilities?

What is the name of the head of the Research Division of Virginia Polytechnic Institute?

What information services are provided by the Poliomyelitis research unit allegedly established at the Wistar Institute in Fall 1968?

BLLR

U

REFERENCE TOOLS and SERVICES

Biographical Directories

On-The-Job Training of Library Personnel

Produced under contract with the
U.S. Office of Education
OEC-1-7-071214-5116, with support
from the U.S. Army ATLIS Project.

INTRODUCTION TO DIRECTORIES:

BIOGRAPHICAL SOURCES

This is a form of "programmed text"--that is, in working with it, you must follow the instructions as to which pages to turn to, rather than reading it through, page by page. It contains a series of multiple-choice questions. At the end of each question are numbered answers; the number of each answer is also the number of the page on which that answer is discussed. Don't worry about getting the wrong answers. The text will help you get through the entire series of questions, whether your first answers are right or wrong.

Biographical Reference Sources

Did you know that there are more requests for information about people than for any other subject? Studies have confirmed this fact. As a result, much of the available reference information is presented in the form of biography. Biographical sources may be said to fall into three groups:

(1) universal, which include notable persons of all times and all places;

(2) retrospective, which are limited to notable persons now dead; and

(3) current, which answer a wide range of questions on living persons.

There are virtually no problems in using biographical sources. Most of them consist of entries on individual persons arranged in alphabetical order. The most serious difficulty you will encounter is being sure of the accuracy of the information you find in them. The information found in even the most reputable sources often varies widely from that in other, equally reputable, sources. The difficulty is that, in general, biographical data are the most elusive of all facts to establish with certainty.

Most biographical reference works deal with people in specific occupations. These specialized biographical sources offer a number of advantages. Usually, the specialized work includes far more persons in the specific field of minor note than you will find in more general sources. Often, too, each biography is more detailed than in works severely limited in space.

Most important, the care with which specialized sources are prepared and the amount of checking that has been done usually exceeds that found in general sources. Thus, you can rely on the accuracy of the specialized work with a higher degree of certainty.

Turn to the next page.

Question

A patron enters your library and asks the present professional affiliation of Dr. Grete Lehner Bibring. He would like to contact her about research in clinical psychology in Boston. Select the biographical source you would use and turn to the appropriate page.

4. American Women of Science
5. Chambers' Dictionary of Scientists
6. American Men of Science

Your answer is that you would consult American Women of Science. You are wrong. This reference work contains fairly long biographies of a dozen prominent American Women Scientists; but Dr. Grete Bibring is not among them. Return to page 3 and select another answer.

Your answer is that you would seek the information in Chambers' Dictionary of Scientists. You are wrong. This British book presents concise biographies of scientists, primarily of the past and with emphasis on Europeans. Turn back to page 3 and select the correct answer.

Your answer is American Men of Science. You are correct. The fact that Dr. Bibring is a woman does not exclude her from being listed in this reference source.

Turn to the next page.

American Men of Science

The first edition of American Men of Science appeared in 1906. Beginning with the ninth edition, division was made between the physical and biological sciences and the social sciences. American Men of Science is revised at irregular intervals. Revisions appear one volume at a time--that is, it takes 2-3 years to revise the entire set.

A. Achievement, by reason of experience and training, of a stature in scientific work at least equivalent to that associated with the doctorate degree, coupled with presently continued activity in such work, or,

B. Research activity of high quality in science or evidenced by publication in reputable scientific journals; or, for those whose work cannot be published because of governmental or commercial or industrial security, research activity of high quality in science as evidenced by the judgement of the individual's peers among his immediate co-workers, or,

C. Attainment of a position of substantial responsibility requiring scientific training and experience of approximately the extent described for (A) and (B).

The biographical information is arranged alphabetically within each section. Figure 1 on the next page shows American Men of Science and its Supplements. Notice that the complete eleventh edition of the Physical and Biological Sciences portion is available but that the tenth edition of the Social and Behavioral Sciences volume is still being used.

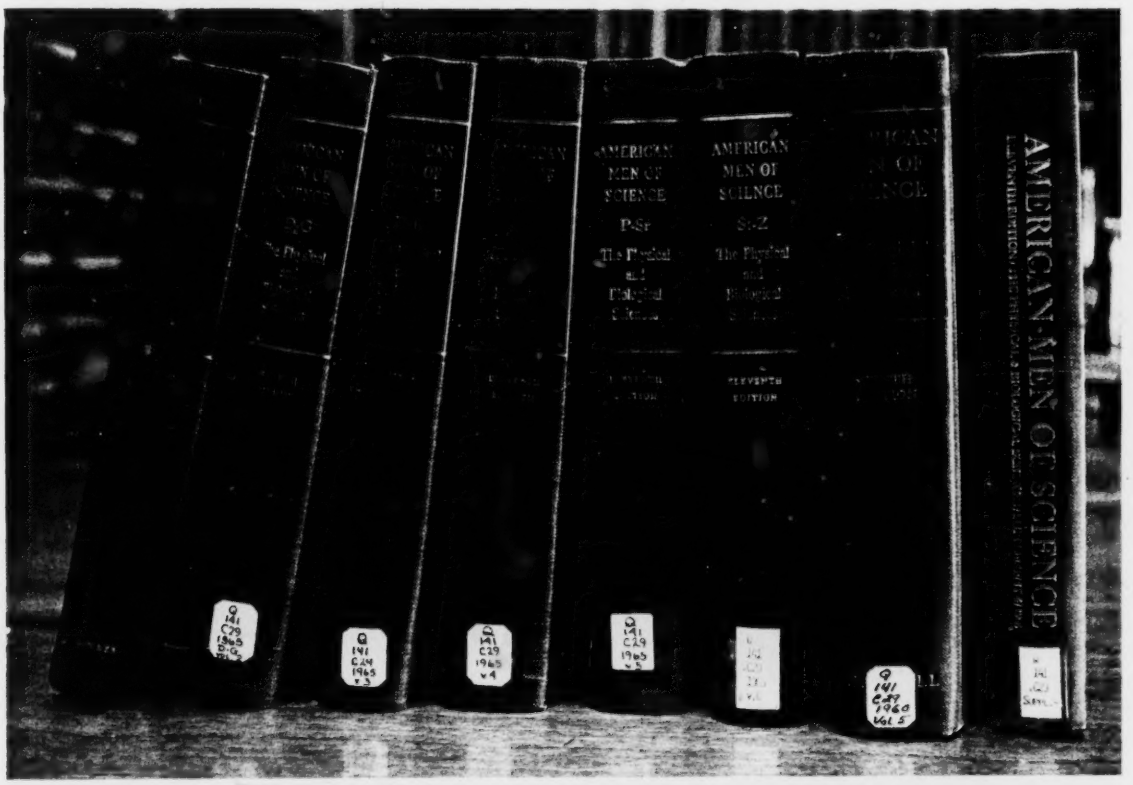

Figure 1. American Men of Science and its Supplements

The Supplements are designed to give significant new data on scientists whose biographies appear in the base volumes. This information covers changes in position and address, deceased notices, and a few other items of importance.

Turn to the next page.

Question

A patron comes into your library and asks for complete biographical information on Professor Hans A. Bethe, including all awards received since 1955. Study Figure 2 and Figure 3 and then supply the data below. Turn to page 12 to be sure your answers are the correct ones.

a. Date and place of birth: _____

b. Address of place of employment: _____

c. Field: _____

d. Marital Status: _____

e. Children: _____

f. University, major, date of graduation, degree: _____

_____

g. Professional societies: _____

_____

h. Current job duties: _____

i. Awards since 1955: _____

j. Year naturalized: _____

asst. prof, 33-38, assoc. prof, 38-46, PROF, 46-, ASST. PROF. ANAT, 29-, instr, 24-29. Consult, U.S. Vet. Admin, 45- Dipl, Am. Bd. Surg, 37. Med.C, U.S.A, 42-45; Legion of Merit, 45. Asn. Anat; fel. Col. Surg; Surg. Asn. Biliary tract disease; colon and gastric surgery.

BEST, LT. COL. WILLIAM J, U.S.A.F, (RET), U.S. Air Force Office of Scientific Research, Washington, D.C. GEOPHYSICS, SEISMOLOGY. Greenville, Pa, July 3, 21; m. 45; c. 3. B.S, Thiel Col. 43; Carnegie Inst. Tech, 47; M.S, St. Louis, 52. Asst. metall, Carnegie Inst. Tech, 46-47; weather officer, U.S. Air Force, 47-50, res. officer seismol, 52-57, geophys, 58-61; CHIEF DIV. GEOPHYS, AIR FORCE OFF. SCI. RES, 61- U.S.A.F, 43-64. Geophys. Union. Synoptic and dynamic meteorology; high vacuum techniques for degassing metals; micro-pressure and temperature oscillations in the atmosphere; earth's mantle and crustal structures; identification of earthquakes and nuclear explosions.

BEST, DR. WILLIAM R(OBERT), 840 S. Wood St, Chicago 12, Ill. HEMATOLOGY. Chicago, Ill, July 14, 22; m. 44; c. 2. B.S, Illinois, 45, M.D, 47, M.S, 51. Clin. asst. MED, ILLINOIS, 48-49, clin. instr, 52-53, asst. prof, 53-63, ASSOC. PROF, 63-, ASST. DIR, AEROMED. LAB, 64- Attend. physician & hematologist, Illinois Res. & Ed. Hosp, 53-; consult, Vet. Admin. Hosp, Hines, 53-; Grant Hosp, 54- Dipl, Am. Bd. Internal Med, 57. U.S.A, 43-46, Med.C, 51-53, Lt. AAAS; Fedn. Clin. Res; Soc. Hemat; Int. Soc. Hemat. Leukemia; pernicious anemia; statistical methods; computers in medicine.

BEST, DR. WILLIAM VALGENE, Chemistry Section, Midwest Research Institute, Kansas City, Mo. PHYSICAL CHEMISTRY. Mendon, Mo, Dec. 17, 31; m. 56; c. 1. A.B, Cent. Methodist Col, 53; M.S, Missouri, 58, summer, Nat. Sci. Found. fel, 59, Ph.D.(phys. chem), 63. ASSOC. CHEMIST, MIDWEST RES. INST, 61- U.S.A, 53-55. Chem. Soc; Research Soc. Thermal accommodation coefficients; adsorption of alkali metals; preparation of ultrapure materials; production of high vacuums.

BESTE, DR. EUGENE W(ELLES), Union Carbide Plastics Co, River Rd, Bound Brook, N.J. CHEMISTRY. Pasadena, Calif, June 21, 12; m. 34; c. 5. B.S, Monmouth Col.(Ill), 33; univ. fel, Columbia, 36-37, Ph.D.(chem), 37. Asst. chem, Columbia, 33-36; res. chemist, UNION CARBIDE PLASTICS CO, 37-46, div. head, res. dept, 46-51, sect. head, 51-56, ASST. DIR, 56- AAAS; Chem. Soc. Thermodynamics of dilute solutions of electrolytes; vinyl polymerization and copolymerization; condensation polymers.

BESTE, DR. GEORGE W(ILLIAM), Ethyl Corp, Box 341, Baton Rouge 1, La. CHEMISTRY. Monmouth, Ill, May 13, 15; m. 39; c. 3. B.S, Monmouth Col, 36; Ph.D.(phys. chem), Columbia, 41; hon. D.Sc, Monmouth Col, 58. Chemist, ETHYL CORP, 40-48, develop. sect. manager, 48-51, assoc. dir. chem. develop, 51-58, gen. mgr. res. & develop, 58-63, MGR. ADMIN, 63- Consult, U.S. Army, 45-46. Chem. Soc; Soc. German Chem. Chemical process development in tetra-ethyl lead, lead-sodium alloys and antiknock compounds; reaction mechanisms.

BESTE, DR. LAWRENCE F(ORWOOD), E.I. du Pont de Nemours & Co, Wilmington 98, Del. PHYSICAL CHEMISTRY. Grand Island, Nebr, Jan. 11, 09; m. 45; c. 1. M.Mus, Chicago Musical Col, 30; B.S, Monmouth Col, 43; Ph.D.(phys. chem), Illinois, 45. Asst, Reconstruct. Finance Corp, Ill, 43-45; res. chemist, textile fibers dept, E.I. DU PONT DE NEMOURS & CO, 45-47, res. group leader, 47-49, res. supvr, 49-54, sr. res. assoc, 54-61, RES. FEL, 61- Chem. Soc; Soc. Rheol. Solution properties of high polymers; mechanical properties of fibers and fabrics; polymer solubility.

BESTER, DR. JOHN (FRANCIS), 28014 Avenida Cuaderno, San Pedro, Calif. PHARMACOLOGY. Cargill, Ont, Can, Apr. 17, 22; m. 46; c. 3. B.Sc, Saskatchewan, 49; M.Sc, Ohio State, 50, Ph.D.(pharmacol), 52. ASST. PROF. pharmacol, Ferris Inst, 52-53; PHARM, SCH. PHARM, SOUTHERN CALIFORNIA, 53- R.C.A.F, 42-45. AAAS; Pharmaceut. Asn. Intravenous anesthetics; diuretics; protein bound iodine metabolism; muscle relaxants.

BESTUL, DR. ALDEN B(EECHER), 9400 Overlea Dr, Rockville, Md. PHYSICAL CHEMISTRY. Forestburg, S.Dak, Sept. 1, 21; m. 47; c. 4. B.A, St. Olaf Col, 42; M.S, Pa. State Col, 44; Ph.D.(chem), Maryland, 54. Res. asst. cryogen, Pa. State Col, 44-45; res. thermochemist, Stamford Res. Labs, Am. Cyanamid Co, 46-48; RES. PHYSICIST, NAT. BUR. STANDARDS, 48- AAAS; Chem. Soc; Phys. Soc; Soc. Rheol; Ceramic Soc; Brit. Soc. Glass Tech. Molecular structure in the vitreous state; rheology of polymers; thermochemistry of organic compounds.

BETCHOV, DR. R(OBERT), 3312 Pine Ave, Manhattan Beach, Calif. PHYSICS. Switz, Oct. 12, 19; nat; m. 48; c. 2. B.A, Col. de Geneve, 39; lic. sci. math, Geneva, 41, lic. sci. physics, 43; Ph.D.(physics), Berne, 46. Physicist, Swiss Fed. Govt, 43-46; chief asst, Dutch Inst. Tech, Delft, 47-49; asst. prof, Maryland, 49-54; res. assoc, George Washington, 54-55; lectr, Hopkins, 55-57; SCIENTIST, Douglas Aircraft, Calif, 57-59; Space Tech. Lab, 59-60; AEROSPACE CORP, 60- Lectr, California, Los Angeles, 57- Swiss Mil. Serv, 39-45. AAAS; Phys. Soc. Fluid dynamics; electronics; applied mathematics.

BETH, DR. ERIC W(ALTER), 74 Merrimac St, Buffalo, N.Y. PHYSICS. Vienna, Austria, June 7, 12; nat. Vienna, 30-31, 33-35, Ph.D.(physics), 34; Göttingen, 31-32; Munich, 32-33; Copenhagen; Utrecht; Cambridge; California; Reed Col. Asst. physics, Vienna, 36-37; res. fel, California, 37-38, asst. 38; physics, Reed Col, 39-40; vis. instr. physics & math, Mills Col, 40-41; instr. physics, Ill. Inst. Tech, 41-42; spec. consult. physics, Electronic Res. Labs, Cambridge, Mass, 46-53; mem. sci. staff, Melpar, Inc, 53-54; physicist, Union Switch & Signal Div, Westinghouse Air Brake Co, 54-62; ASST. PROF. PHYSICS, STATE UNIV. N.Y. BUFFALO, 62- U.S.A, 41, 42-45. Wave mechanics; quantum theory of the non-ideal gas; upper air properties.

BETH, DR. RICHARD A(LEXANDER), 8 Leisurely Lane, Bellport, L.I, N.Y. PHYSICS, MATHEMATICS. New York, N.Y, Jan. 14, 06; m. 43; c. 2. B.S, Worcester Polytech, 27, M.S, 29; Am. exchange fel, Germany, 29-32; Alexander von Humboldt Foundation fel, Frankfurt, 30-32, Dr. Phil. Nat.(math), 32; hon. D.Sc, Worcester Polytech, 63. Instr. physics, Worcester Polytech, 27-29, asst. prof, 32-39; assoc. prof. appl. math, Mich. State Col, 39-41; consult, div. two, nat. defense res. cmt, Princeton, 40-45; consult, Off. Sci. Res. & Develop, 45; prof. physics & head dept, Western Reserve, 46-47; Perkins Prof, 47-55; Fulbright prof, Univ. Innsbruck, Austria, 54-55; PHYSICIST, BROOKHAVEN NAT. LAB, 55- Consult. bomb damage surv, inst. res. Lehigh, 48-49. Res. assoc, Princeton, 34-35; consult, Waugh Labs, New York, 42-46. Mem. cmt. fundamental phys. constants, Nat. Res. Coun, 41. Rep, Coun. Argonne Nat. Lab, 47-54, physicist, cmt. passive protection against bombing, Nat. Res. Coun, 40-42; cmt. fortification design, 43-45; Alsos Mission, War Dept, G-2, 45; vis. physicist, Brookhaven Nat. Lab, summers, 51, 53, 54; assoc. ed, Am. Jour. Physics, 53-56; grad. fellowship panel, Nat. Sci. Found, 54, 59, 60; Fulbright guest prof, Bonn, 63-64. U.S. Cert. Merit, 48. AAAS; fel, Phys. Soc; Math. Soc; Optical Soc; Sci. Research Soc; Asn. Physics Teachers. Orthogonal functions; mechanical effects of light; fundamental physical constants; terminal ballistics; elasticity; magnetic fields; particle accelerators.

BETHARD, DR. WILLIAM F(REDERICK), 10955 John Jay Hopkins Dr, San Diego, Calif. HEMATOLOGY, RADIOBIOLOGY. Richmond, Ind, Sept. 17, 16; m. 43; c. 2. B.S, Chicago, 40, M.D, 42. Intern, St. Luke's Hosp, San Francisco, 42-43; asst. res. med, Chicago, 47-50, Damon Runyon sr. clin. res. fel, 50-52, asst. prof. med, 52-54; staff physician, Scripps Metabol. Clinic, 54-59; MED. DIR, GEN. ATOMIC DIV, GEN. DYNAMICS CORP, 59- Consult, dept. nuclear med. & radiation biol, sch. med, California, Los Angeles. U.S.N.R, 43-46, Lt. Comdr. Asn. Cancer Res; Radiation Res. Soc; Fedn. Clin. Res. Blood formation; biologic effects of radiation.

BETHE, PROF. HANS A(LBRECHT), Nuclear Studies Lab, Cornell University, Ithaca, N.Y. THEORETICAL PHYSICS. Strasbourg, Germany, July 2, 06; nat; m. 39; c. 2. Frankfurt, 24-26; Ph.D.(physics), Munich, 28; hon. D.Sc, Polytech. Inst. Brooklyn, 50, Denver, 52, Chicago, 53, Birmingham, England, 56, Harvard, 58. Instr. PHYSICS, Frankfurt, 28-29; Stuttgart, 29; lectr, Munich, 30-33; Manchester, England, 33-34; fel, Bristol, 34-35; asst. prof, CORNELL, 35-37, PROF, 37- Rockefeller Found. Int. Ed. Bd. fel, Cambridge & Rome, 30-32; staff mem. radiation lab, Mass. Inst. Tech, 42-43; chief theoret. physics div, Los Alamos Sci. Lab, N. Mex, 43-46; vis. prof, Columbia, 41, 48; Cambridge, 55-56; Calif. Inst. Tech, 64. Consult, Los Alamos Sci. Lab, 47-; Avco Res. Lab, 55-; Atomic Power Develop. Assocs, 53-; Gen. Atomic Power Div. of Gen. Dynamics, 55-; President's Sci. Adv. Cmt, 56-59. Morrison prize, N.Y. Acad. Sci, 38, 40; U.S. Medal Merit, 46; Planck medal, 55; Enrico Fermi Prize, U.S. Atomic Energy Cmn, 61. Mem, U.S. delegation to Discussions on Discontinuance of Nuclear Weapons Tests, Geneva, 58-59. Nat. Acad.(Draper medal, 48); fel. Phys. Soc.(pres, 54); Astron. Soc; Philos. Soc; Royal Soc. London. Quantum theory of atoms; theory of metals; quantum theory of collisions; theory of atomic nuclei; meson theory; energy production in stars; quantum electrodynamics; shock wave theory.

BETHEA, DR. OSCAR W(ALTER), Internal Med, see 10th ed, Phys. & Biol. Vols.

BETHEIL, DR. JOSEPH J(AY), Albert Einstein College of Medicine, Yeshiva University, New York 61, N.Y. BIOCHEMISTRY. New York, N.Y, April 16, 24; m. 48; c. 2. B.S, City Col, 44; M.S, Wisconsin, 47, Ph.D.(biochem), 49. Research asst, dept. chem, Office Sci. Research & Develop. proj, Columbia, 44-45; instr. BIOCHEM, sch. med. & dent, Rochester, 50-54, asst. prof, 54-55; ALBERT EINSTEIN COL. MED, YESHIVA, 55-58, ASSOC. PROF, 58- U.S. Pub. Health Serv. fel, Inst. Enzyme Research, Wisconsin, 49-50. AAAS; Biochem. Soc; Chem. Soc. Protein chemistry and structure; intermediary metabolism; regulation of protein biosynthesis; nutrition.

BETHEL, DR. JAMES S(AMUEL), 3816 E. Mercer Way, Mercer Island, Wash. WOOD TECHNOLOGY. New Westminster, B.C, Can, Aug. 13, 15; m. 41; c. 3. B.S.F, Washington (Seattle), 37; M.F, Duke, 39, D.F, 47. Instr. forestry, Pa. State Col, 39-41; asst. prof, Va. Polytech, 41-42; asst. mgr, Tidewater Plywood Co, Ga, 46-48, prod. mgr, 48-49; assoc. prof. wood tech, N.C. State Col, 49-50, prof. & dir. wood prod. lab, 50-58, head, wood prod. dept. & acting dean, grad. sch, 58-59; head spec. proj, sci. ed. sect, Nat. Sci. Found, 59-62; assoc. dean grad. sch, WASHINGTON (SEATTLE), 62-64, DEAN COL. FORESTRY, 64- UN consult, Yugoslavia, 52; adv, Econ. Develop. Admin, P.R, 56; consult, Governor's Res. Triangle, N.C, 57-59; mem. exec. cmt. & dir, Orgn. Trop. Studies, 63- U.S.A.F, 43-46. Fel. AAAS; Soc. Foresters (ed. jour); Forest Prod. Res. Soc; Soc. Wood Sci. & Tech.(pres, 58-59, 60-61); Ecol. Soc; Brit. Inst. Wood Sci. Wood science, especially anatomy and morphology; relationship of environment to structure of wood in forest trees; wood moisture relationships.

BETHEM, PROF. AUGUST J, Dept. of Mathematics, California State College, California, Pa. MATHEMATICS. Cecil, Pa, Jan. 1, 25; m. 43; c. 2. B.A, Washington & Jefferson Col, 49, M.A, 52; M.S, Illinois, 59; Cornell, 60; fel, Pittsburgh, 63-64. Instr. MATH, Washington & Jefferson Col, 49-51; pub. schs, Pa, 51-60; ASSOC. PROF, CALIFORNIA STATE COL.(PA), 60- U.S.A, 43-46, Sgt. Training for secondary mathematics teachers.

BETHKE, DR. GEORGE W(ILLIAM), JR, Space Technology Center, P.O. Box 8555, General Electric Co, Philadelphia 1, Pa. PHYSICAL CHEMISTRY. Green Bay, Wis, July 17, 30; m. 63. B.S, Wisconsin, 52; M.A, Harvard, 54; Standard Oil of Ill. & Calif. fel, Harvard, Ph.D.(phys. chem), 56. PHYSICIST, GEN. ELEC. CO, 56- Phys. Soc. Plasma physics; shock tubes; plasma diagnostics; spectroscopy; plasma-microwave interaction.

BETHKE, DR. PHILIP M(ARTIN), 8732 Ridge Rd, Bethesda 14, Md. GEOLOGY. Chicago, Ill, Mar. 22, 30; m. 55; c. 6 B.A, Amherst Col, 52; Kemp fel, Columbia, 54-55, M.A, 54, Ph.D.(geol), 57. Asst. geol, Columbia, 52-53, res. asst, 53-54; asst. prof, Mo. Sch. Mines, 55-59; GEOLOGIST, U.S. GEOL. SURV, 57- Geologist, U.S. Atomic Energy Cmn, summer, 52; lectr, Hunter Col, summer, 54. Geol. Soc; Geochem. Soc; Mineral Soc; Soc. Econ.

Figure 2

health sci, 67-, National Institutes of Health, Room 420, 7550 Wisconsin Ave, Bethesda, Md. 20014.

BEST, PROF. JAY BOYD, b. Tulsa, Okla, Nov. 21, 21. PHYSIOLOGY, BIOPHYSICS. A.B, Texas, 47; Ph.D.(physiol), Chicago, 53. Res. assoc. psychol, Chicago, 53-55; biophysicist, Walter Reed Army Inst. Res, 55-60; assoc. prof. physiol, col. med, Illinois, 60-63; PROF. PHYSIOL. & BIOPHYS, COLORADO STATE, 63- Nat. Insts. Health grant, 61-67; res. fel, Chicago, 63-66; NASA grants, 64-67. U.S.A.A.F, 43-46, 1st Lt. Fel. AAAS; Soc. Zool. Mathematical biophysics; molecular mechanisms of memory, differentiation and aging; protopsychology. Address: Dept. of Physiology & Biophysics, Colorado State University, Ft. Collins, Colo. 80521.

BEST, PROF. R(AYMOND) V(ICTOR). Geology. See 11th ed, Phys. & Biol. Vols. New position: Assoc. prof, 67-, Dept. of Geology, University of British Columbia, Vancouver, B.C, Can.

BETHE, PROF. HANS A(LBRECHT). Theoretical Physics. See 11th ed, Phys. & Biol. Vols. New information: Nobel Prize in Physics, 67. Address: Nuclear Studies Lab, Cornell University, Ithaca, N.Y. 14850.

BETHEA, DR. TRISTRAM W(ALKER), b. Lancaster, S.C, July 29, 38. ORGANIC CHEMISTRY. B.S, Davidson Col, 60; M.S, Clemson, 62, Ph.D.(org. chem), 65. U.S. Air Force res. assoc, Case, 64-66; RES. CHEMIST, CENT. RES. LAB, FIRESTONE TIRE & RUBBER CO, 67- Chem. Soc. Organometallic and transition metal chemistry; free radical chemistry; heavy metal decarboxylation of acids; synthetic organic chemistry; steroids. Address: 3685 Shoreline Dr, Akron, Ohio 44314.

BETHUNE, DR. JOHN E(DMUND). Endocrinology. See 11th ed, Phys. & Biol. Vols. New position: Also head, sect. endocrinol. & dir, clin. res. center, University of Southern California, 2025 Zonal Ave, Los Angeles, Calif. 90033.

BETTS, DR. DONALD D(RYSDALE). Theoretical Physics. See 11th ed, Phys. & Biol. Vols. New position: Prof, 66-, Dept. of Physics, University of Alberta, Edmonton, Alta, Can.

BETTS, DR. R(OBERT) H(OLLADAY). Physical Chemistry. See 11th ed, Phys. & Biol. Vols. New position & address: Prof. & head dept. chem, 66-, University of Manitoba, Winnipeg 19, Man, Can.

BETZ, L(EROY) DREW. Chemistry. See 11th ed, Phys. & Biol. Vols. New position: Emer. chmn. bd. dirs, Betz Labs, Inc, Independence Mall West, Sixth & Market Sts, Philadelphia, Pa. 19106.

BRUTHER, HAROLD. Chemical Engineering. See 11th ed, Phys. & Biol. Vols. New position: Dir. process res, Gulf Research & Development Co, P.O. Drawer 2038, Pittsburgh, Pa. 15230.

BEVAN, DR. ARTHUR (CHARLES). Geology. See 11th ed, Phys. & Biol. Vols. New information: Retired from Ill. State Geol. Surv. Address: 1764 Englewood Dr, Staunton, Va. 24401.

BEVAN, PROF. WILLIAM, JR. Psychology. See 11th ed, Soc. & Behav. Vols.

BEVER, DR. CHRISTOPHER T(HEODORE). Psychiatry. See 11th ed, Phys. & Biol. Vols. New information: Assoc. clin. prof. psychiat, med. sch, George Washington, 65-66; pres, D.C. Inst. Ment. Hyg, 66- Address: 2141 K St. N.W, Washington, D.C. 20037.

BEVERLY, DR. WILLIAM B, b. Jenkins, Ky, Dec. 31, 30. NUCLEAR PHYSICS. B.S, Lincoln Mem. Univ, 51; M.S, Virginia, 57, Ph.D.(physics), 59. PHYSICIST, Nat. Bur. Standards, 59-66; U.S. ARMY NUCLEAR DEFENSE LAB, 66- U.S.N, 51-55. Neutron spectroscopy and dosimetry; neutron and gamma Monte Carlo transport calculations. Address: 331 Hardwick Place, Joppatowne, Md. 21085.

BEVIER, GEORGE A, b. Bogota, Colombia, Apr. 21, 28; U.S. citizen; m. 51; c. 4. MEDICAL ENTOMOLOGY. A.B, Stanford, 48. Entomologist, Pan Am. Health Orgn, 55-58; gen. mgr, La Exterminadora, Dominican Repub, 58-60; adv. malaria eradication prog. Agency Int. Develop, Managua, Nicaragua, 61-64; entomologist AEDES AETYPTI ERADICATION PROG, NAT. COMMUN. DISEASE CENTER, U.S. PUB. HEALTH SERV, 64-66, CHIEF OPERS, 66- Med.Serv.C, 51-54, 1st Lt. Entom. Soc. Am; Mosquito Control. Asn. Applied control for arthropod vectors of human diseases, especially yellow fever and malaria; selvatic yellow fever ecology. Address: Aedes Aegypti Eradication Branch, National Communicable Disease Center, U.S. Public Health Service, Atlanta, Ga. 30333.

BEVIS, DR. HERBERT A(NDERSON). Sanitary Engineering. See 11th ed, Phys. & Biol. Vols. New position: Assoc. prof, 66-, Dept. of Bioenvironmental Engineering, University of Florida, Gainesville, Fla. 32601.

BEYCHOK, DR. SHERMAN. Physical Chemistry. See 11th ed, Phys. & Biol. Vols. New position & address: Assoc. prof. biophys. & chmn, subcmt. biophys, Dept. of Biological Sciences, Columbia University, N.Y. 10027.

BEYER, DR. E(DGAR) H(ERMAN). Plant Breeding & Genetics. See 11th ed, Phys. & Biol. Vols. New position: Res. dir, Farm Seed Res. Corp, 66- Address: Ferry-Morse, Box 8, San Juan Bautista, Calif. 95045.

BEYER, DR. LOUIS M(ARTIN), b. Paducah, Ky, Nov. 7, 39; m. 59; c. 2. NUCLEAR PHYSICS. B.S, Murray State, 62; Nat. Defense Ed. Act fel, Mich. State, 62-65, M.S, 63, Ph.D.(nuclear physics), 67. ASST. PROF. PHYSICS, MURRAY STATE, 67- Low energy nuclear structure by methods of beta and gamma ray spectroscopy. Address: Dept. of Physics, Murray State University, Murray, Ky. 42071.

BEYER, DR. WILLIAM H(YMAN). Mathematical Statistics, Mathematics. See Suppl. II to 11th ed, Phys. & Biol. Vols. New position: Prof. math. & statist, 66-, University of Akron, Akron, Ohio 44304.

BEYLER, DR. ROGER E(LDON). Organic Chemistry. See 11th ed, Phys. & Biol. Vols. New position: Dean, 66-, College of Liberal Arts & Sciences, Southern Illinois University, Carbondale, Ill. 62901.

BHALLA, DR. CHANDER P, b. Hariana, India, Sept. 15, 32; m. 63; c. 3. NUCLEAR & REACTOR PHYSICS. B.S, Punjab, India, 52, Hons, 54, M.S, 55; Ph.D.(physics), Tennessee, 60. Asst. physics, Tennessee, 56-60; sr. scientist, Westinghouse Elec. Corp, Pa, 60-64; asst. prof. PHYSICS, Alabama, 64-65, ASSOC. PROF, 65-66; KANSAS STATE, 66- Summers, fel, Univ. Colorado, 60, resident res. assoc, Argonne Nat. Lab, 66. Consult, Oak Ridge Nat. Lab, 58-60; Nat. Bur. Standards, D.C, 62-64; space div, Northrop Corp, Ala, 65-; Argonne Nat. Lab, 66- Nuclear Soc; Phys. Soc. Atomic physics. Address: Dept. of Physics, Kansas State University, Manhattan, Kans. 66502.

BHATIA, DR. N(AM) P(ARSHAD). Mathematics. See 11th ed, Phys. & Biol. Vols. New information: Ed, Math. Systs. Theory. Address: Dept. of Mathematics, Case-Western Reserve University, Cleveland, Ohio 44106.

BHATTACHARYA, DR. A. K, b. Allahabad, India, Oct. 14, 35; m. 64. NUCLEAR ENGINEERING, PHYSICS. B.Sc, Lucknow, 54, M.Sc, 56; fel, Saha Inst. Nuclear Physics, India, 57; Ph.D.(nuclear eng), Illinois, Urbana, 66. Res. assoc. gas electronics, Illinois, Urbana, 66-67; RES. PHYSICIST, GEN. ELEC. CO, 67- Gaseous discharge; electronic, atomic and molecular processes in a gaseous plasma. Address: Lighting Research Lab, General Electric Co, Nela Park, Cleveland, Ohio 44112.

BHATTACHARYA, DR. RAMENDRA KUMAR. Mathematics. See Suppl. II to 11th ed, Phys. & Biol. Vols. New position & address: Asst. prof, 67-, Dept. of Mathematics, Southern Illinois University, Carbondale, Ill. 62903.

BHUTA, DR. PRAVIN G. Applied Mechanics & Mathematics. See 11th ed, Phys. & Biol. Vols. New information: Asst. head, spec. proj. sect, TRW Systs, 62-66, mgr. adv. tech. dept, 66-; adj. assoc. prof, Southern California, 62- Address: 5307 Calle Mayor, Torrance, Calif. 90505.

BIAGGI, DR. VIRGILIO, JR. Ornithology. See 11th ed, Phys. & Biol. Vols. Correction: Dir. biol. dept, Puerto Rico, 58- Address: College Station, Mayaguez, P.R. 00708.

BIANCHERIA, DR. A(MILCARE). Physical Chemistry. See 11th ed, Phys. & Biol. Vols. New position: Fel. engr, 66-, Advanced Reactors Division, Westinghouse Electric Corp, P.O. Box 1585, Pittsburgh, Pa. 15230.

BIANCHI, DR. C(ARMINE) PAUL. Cell Physiology. See 11th ed, Phys. & Biol Vols. New position: Assoc. prof. physiol, 66-, University of Pennsylvania Medical School, Philadelphia, Pa. 19104.

BIANCHI, DONALD ERNEST. Physiology. See 11th ed, Phys. & Biol. Vols. New position: Prof, 66-, Dept. of Biology, San Fernando Valley State College, 18111 Nordhoff St, Northridge, Calif. 91324.

BIANCO, DR. DONALD R. Physics. See 11th ed, Phys. & Biol. Vols. New position: Group supvr, Bendix Aerospace Systs. Div; 66- Address: 8253 N. Anticliff Rd, Howell, Mich. 48843.

BIBBERO, ROBERT JOSEPH. Electronics. See 11th ed, Phys. & Biol. Vols. New position: V.pres. & dir, Tech. Anal. Group, Inc, New York. Address: 417 Meadow Lane, Merion, Pa. 19066.

BIBBY, DR. MALCOLM, b. Mountain Park, Alta, Can, Aug, 28, 39; m. 66. PHYSICAL METALLURGY. B.Sc, Alberta, 61, M.Sc, 63, Ph.D.(phys. metall), 65. Mem. tech. staff, solid state device labs, Bell Tel. Labs, 66-68; ASST. PROF. ENG, CARLETON (CAN), 68- Soc. Metals. Magnetic properties of materials. Address: Dept. of Engineering, Carleton University, Ottawa, Ont, Can.

BIBRING, DR. GRETE LEHNER. Psychiatry. See 11th ed, Phys. & Biol. Vols. New information: Emer. clin. prof. psychiat, Harvard & emer. psychiatrist-in-charge, Beth Israel Hosp, 65-; res. consult. psychoanal. psychol, Radcliffe Col, 65-; consult, psychiat. serv, Faulkner Hosp, 66- Address: 47 Garden St, Cambridge, Mass. 02138.

BICK, DR. THEODORE A, b. Brooklyn, N.Y, Dec. 18, 30; m. 56; c. 4. MATHEMATICS. B.S, Union Col, 52, M.S, Rochester, 60, Ph.D.(ergodic theory), 64. Instr. MATH, Hobart & William Smith Cols, 61-64, asst. prof, 64-65, ASSOC. PROF, 65-66; UNION COL.(N.Y), 66- U.S.M.C, 50-53, Sgt. Math. Soc; Math. Asn. Ergodic theory; functional analysis; real variable theory; measure and integration. Address: Dept. of Mathematics, Union College, Schenectady, N.Y. 12308.

BICKEL, DR. CHARLES L(ESTER). Organic Chemistry. See 11th ed, Phys. & Biol. Vols. New position: Harlan Page Amen prof, Phillips Exeter Academy, Exeter, N.H. 03833.

BICKEL, DR. PETER J, b. Bucharest, Romania, Sept. 21, 40; U.S. citizen; m. 64; c. 1. MATHEMATICAL STATISTICS. A.B, California, Berkeley, 60, M.A, 61, Ph.D.(statist), 63. Asst. prof. STATIST, CALIFORNIA, BERKELEY, 63-67, ASSOC. PROF, 67- Lectr, Imp. Col, London, 65-66. Inst. Math. Statist; Am. Statist. Asn; Royal Statist. Soc. Nonparametric statistics; sequential analysis. Address: Dept. of Statistics, University of California, Berkeley, Calif. 94720.

BICKEL, DR. THOMAS FULCHER. Algebra. See Suppl. II to 11th ed, Phys. & Biol. Vols. New position & address: Asst. prof, 67-. Dept. of Mathematics, Dartmouth College, Hanover, N.H. 03755.

BICKEL, DR. WILLIAM SAMUEL, b. Ottsville, Pa, June 8, 37. EXPERIMENTAL PHYSICS, SPECTROSCOPY. B.S, Pa. State, 59, Ph.D.(physics) 65. Res. assoc. PHYSICS, ARIZONA, 65, ASST. PROF, 65- Phys. Soc. Plasma spectroscopic diagnostics; atomic physics; spectroscopy of fast excited ions

Figure 3

You are correct if you gave the following answers:

a. July 2, 1906, Strasbourg, Germany

b. Nuclear Studies Lab., Cornell University, Ithaca, N. Y.

c. Theoretical physics

d. Married in 1939

e. 2 children

f. Frankfurt, 1924-1926; Ph.D. (physics), Munich, 1928; hon. D.Sc. Polytech Inst. Brooklyn, 1950; Denver, 1952; Chicago, 1953; Birmingham, Engl., 1956; Harvard, 1958.

g. Nat. Acad., Phys. Soc., Astron. Soc., Philos. Soc., Royal Soc., London.

h. Professor, Cornell University; Consultant, Los Alamos Sci.Lab.; Avco Res. Lab., Atomic Power Develop. Assocs., Gen. Atomic Power Div. of General Dynamics.

i. Enrico Fermi Prize, AEC, 1961; Nobel Prize in Physics, 1967.

j. Not given

Turn to page 13.

Question

A patron asks you to consult the current edition (11th) of American Men of Science for information about Dr. Theodore von Karman, who died several years ago. How would you respond to this request? Select the correct answer and turn to the appropriate page.

14. Tell the patron that the current edition of American Men of Science will not have information about Dr. von Karman because he is now dead and that it is therefore useless to look.

15. Do as requested.

16. Seek the information in Leading American Men of Science.

Your answer is that you would tell the patron that the current edition of American Men of Science does not have information about Dr. von Karman because he is now dead. You are wrong. It is true that there will not be a biographical citation; however, the current edition will be helpful to you in your search for information. Return to page 13 and select the correct answer.

Your answer is that you would do as requested. You are correct. The current edition of American Men of Science will not have a biographical citation for Dr. von Karman, but it will refer you to the edition that does.

Turn to page 17.

Your answer is that you would seek the information in Leading American Men of Science. Wrong. This source contains 17 biographies of major American sientists of the nineteenth century and earlier. You will not find information on Dr. von Karman here. Choose another answer. The question is one page 13.

Question

A patron enters the library and tells you he wants to get in touch with an old college classmate, Lloyd A. Baillie, who has done outstanding research in the use of radioactive tracers in petroleum processing. Baillie has only a bachelor's degree. The patron does not know the State in which Baillie currently resides. He asks if there is a yearbook or directory that contains information on relatively little-known individuals who do not have an advanced academic degree. What suggestion would you make? Select the correct answer and turn to the appropriate page.

19. Current Biography

20. American Men of Science

22. Guide to American Biography

If you were referred to this page by the program, you are not using it correctly.

Your answer is Current Biography. It was a good choice, but Lloyd A. Baillie is not listed in it. Current Biography is especially helpful when you want a page or two on a person who has been in the news in recent years. Current Biography contains biographical material gathered from periodical sources. If an individual is obscure, it is quite unlikely that he will have an entry here. Try a reference tool that concerns the subject field in which Baillie works. Return to the question on page 17 and make another choice.

Your answer is American Men of Science. You are correct. An entry on Lloyd A. Baillie is on page 199. (See Figure 4). The majority of biographical references list people with specific occupations. Usually, these specialized works--American Men of Science is an example--include far more people of minor accomplishment than will be found in more general sources. It should also be noted that one of the criteria for inclusion in American Men of Science is "achievement, by reason of experience and training, of a stature in scientific work at least equivalent to that associated with the doctorate degree, coupled with presently continued activity..."

Turn to page 23.

BAILEY, DR. W(ILLIAM) A(QUILA), JR, Box 100, Deer Park, Texas. ORGANIC CHEMISTRY. Macon, Ga, March 14, 10; m. 30; c. 2. A.B, Emory, 32, A.M, 33; Washington (St. Louis), 33-35; du Pont fel, Hopkins, 36-37, Ph.D.(chem), 37. Chemist, Cellulose Res. Corp, 35, 36; Shell Develop. Co, 37-44, sr. technologist, SHELL OIL CO, 44-45, mgr. res. lab, 45-49, chief technologist, 47, RES. DIR, 49-53, HOUSTON PROCESS RES. LAB, 53- AAAS; Chem. Soc. Process development; catalytic cleavage of carbon-carbon bonds; molecular weights of cellulose; pyrrole series; hydration; dehydration; chlorination; hydrochlorination; dehydrochlorination; ketone condensations; catalytic cracking; isomerization; hydrogenation; dehydrogenation; extractive crystallization.

BAILEY, WILLIAM B(EST), Bedford Institute of Oceanography, Box 1006, Dartmouth, N.S, Can. OCEANOGRAPHY. Yarmouth, N.S, Aug. 30, 24; m. 45; c. 4. B.Sc, Acadia, 48. Demonstr. physics, Acadia, 47-48, Dalhousie, 48-50; asst. oceanogr, Atlantic Oceanog. Group, Fisheries Res. Bd, Can, 50-57, assoc. oceanogr, 57-62; SR. SCI. OFFICER, BEDFORD INST. OCEANOG, 62- Sr. oceanogr, circumnavig. N.Am. by H.M.C.S. Labrador, 54. R.C.N.R, 42-45, Lt. Comdr. Physical oceanography of Atlantic and Arctic waters; synoptic oceanography.

BAILEY, PROF. W(ILLIAM) F(LEMING), MacMurray College, Jacksonville, Ill. CHEMISTRY. Albia, Iowa, March 13, 01; m. 28; c. 1. B.S, Monmouth Col, 24; M.S, Illinois, 25, Ph.D.(anal. chem), 33. Instr. CHEM, Washington & Lee, 25-26, asst. prof, 26-30; asst, Illinois, 30-33; PROF, MacMURRAY COL, 33- Chem. Soc. Analysis of halides, alkali metals and cobalt; detection of chloride in presence of bromide; activity of cupric ion in solutions of ammonia.

BAILEY, WILLIAM F(REDERICK), Electronics, see 10th ed, Phys. & Biol. Vols. Latest known address: Key Color Studios, Inc, 26 Windsor Ave, Mineola, Long Island, N.Y.

BAILEY, DR. WILLIAM H(OTCHKISS), see 10th ed, Phys. & Biol. Vols, deceased 64.

BAILEY, PROF. WILLIAM J(OHN), Dept. of Chemistry, University of Maryland, College Park, Md. ORGANIC CHEMISTRY. East Grand Forks, Minn, Aug. 11, 21; m. 49; c. 3. B.Chem, Minnesota, 43; Ph.D.(org. chem), Illinois, 46. Asst. org. chem, Illinois, 43, asst, War Prod. Board program, 43-46; Little fel, Mass. Inst. Tech, 46-47; asst. prof. ORG. CHEM, Wayne 47-49, assoc. prof, 49-51; PROF, MARYLAND, 51- Consult, Am. Cyanamid Co; Goodyear Tire & Rubber Co; Texaco, Inc; Naval Ord. Lab. Chmn. Gordon Res. Conf. Org. Reactions, 60; mem. Nat. Res. Coun. elastomers adv. cmt, Natick Lab. Res. award, Fatty Acid Producers, 55. AAAS; Chem. Soc. (secy-treas, div. polymer chem, 63-65); Oil Chem. Asn. Sodium polymerization; oriented polymers; cyclooctatetraene; cyclic dienes; acetylene derivatives; pyrolysis of esters and unsaturated compounds; hydrocarbons; polypeptides; phosphorus compounds.

BAILEY, PROF. WILLIAM ROBERT ARTHUR, Dept. of Biological Sciences, University of Delaware, Newark, Del. MICROBIOLOGY. Barbados, B.W.I, July 3, 17; m. 44; c. 4. B.Sc, McGill, 40, M.Sc, 50, fel, 53-54, Ph.D.(med. bacter), 55. Chemist-bacteriologist, West India Rum Refinery, B.W.I, 46-47; bacteriologist, enteric lab, Nat. Health & Welfare, Can, 47-56; assoc. prof. BIOL. SCI, DELAWARE, 56-62, PROF, 62- R.C.A.F, 41-46. AAAS; Soc. Microbiol; Can. Soc. Microbiol. Bacteriophage; transduction and lysogeny; colicines; public health; enteric bacteriology; diagnostic microbiology.

BAILIE, DR. J(AMES) C(LYDE), Standard Oil Co. of Indiana, Neodesha, Kans. ORGANIC CHEMISTRY. Pittsburg, Kans, May 17, 11; m. 39; c. 2. A.B, Illinois, 33; M.S, Kans. State Teachers Col, 34; Ph.D.(org. chem), Iowa State Col, 38. Res. chemist, STANDARD OIL CO.(IND), 38-45, res. group leader, 45-46, asst. chief chemist, 46-52, SUPT, NEODESHA LAB, 52- Chem. Soc. Organic synthesis; organometallics; catalysts; petroleum analysis; catalysts for petroleum refining; organic sulfur insecticides; organolead chemistry.

BAILIN, DR. LIONEL J, 3 Mulberry Court, Belmont, Calif. INORGANIC CHEMISTRY. New York, N.Y, Oct. 28, 28; m. 58; c. 3. B.A, N.Y. Univ, 49; M.S, Polytech. Inst. Brooklyn, 52; teaching fel, Tulane, 54-55, U.S. Army Ord. Dept. res. grant, 55-57, Ph.D.(inorg. chem), 58. Develop. chemist, plaster of Paris, Davis & Geck Co, Am. Cyanamid Co, 51-52; phys. chemist, chem. warfare, Army Chem. Center, Md, 52-54; chemist, pigment tech, E.I. du Pont de Nemours & Co, 57-62; RES. SCIENTIST, INORG. COATINGS FOR SPACE APPLN, MAT. SCI. LAB, LOCKHEED MISSILES & SPACE CO, 62- Chem.C, 52-54. Chem. Soc; fel. Inst. Chem; Brit. Chem. Soc; Soc. Rheol; Inst. Physics. Inorganic and modified inorganic coatings stable to ultraviolet and nuclear radiation under space and terrestrial environments; new titanium dioxide pigments for pulp, paper and paint industry.

BAILIN, DR. L(OUIS) L(EONARD), 3482 S. Carmona Ave, Los Angeles 16, Calif. PHYSICS, MATHEMATICAL PHYSICS. Chicago, Ill, May 28, 22; m. 44; c. 3. Calif. State scholar, California, Los Angeles, 43, B.A, 45, M.A, 46, Ph.D.(physics), 49. Asst. physics, California, Los Angeles, 43-44; physicist, Naval Ord. Lab, 44-45; physics & math, California, Los Angeles, 45-48; mathematician, Bur. Standards, 48-49; res. physicist, Hughes Aircraft Co, 49-57; assoc. prof. elec. eng, Southern California, 53-56, prof, 56-60; MGR. ANTENNA DEPT, HUGHES AIRCRAFT CO, 60-, consult, 56-59. Adj. prof, Southern California, 61- Consult, Skiatron TV. Corp, 59. U.S.N.R, 44-45. Phys. Soc; sr. mem. Inst. Elec. & Electronics Eng. Antennas, propagation and electronics.

BAILLIE, DR. A(NDREW) D(OLLAR), 917 Rideau Dr. Calgary, Alta, Can. GEOLOGY, STRATIGRAPHY. Dollar, Scotland, Nov. 20, 13; m. 46. B.Sc, Manitoba, 49; M.Sc, 50; Ph.D.(geol), Northwestern, 53. Geologist, Mines Br, Man, 50-53; Can. Gulf Oil Co, 53-57; from regional geologist to RES. GEOLOGIST, BRIT. AM. OIL CO, 57- Spencer Gold Medal, Manitoba, 53; geologist medal award, Alta. Asn. Petrol, 55. R.C.A.F, 40-45, Lt. Asn. Petrol. Geol; Geol. Soc; fel. Can. Geol. Soc. Stratigraphy, sedimentation and allied fields.

BAILLIE, D(ONALD) C(HESLEY), 20 Wychwood Park, Toronto 4, Ont, Can. ACTUARIAL SCIENCE. Toronto, Can, Apr. 3, 15; m. 57; c. 2. M.A, Toronto, 36; univ. fel, Columbia, 36-38. Lectr, MATH, TORONTO, 38-41, asst. prof, 45-58, ASSOC. PROF, 58- R.C.N, 41-45, Lt. Soc. Actuaries. (prize, 47). Actuarial mathematics.

BAILLIE, LLOYD A, Sinclair Research Labs, Inc, 400 E. Sibley Blvd, Harvey, Ill. CHEMISTY. Pierpont, S.Dak, June 20, 30; m. 54; c. 1. B.S, S.Dak. State Col, 52. Chemist, Argonne Cancer Res. Hosp, 53-54; RES. CHEMIST, SINCLAIR RES. LABS, INC, 56- U.S.A.F, 54-56, 1st Lt. Application of radioactive tracers to problems in petroleum processing.

BAILLIE, PROF. W(ILLIAM) H(AROLD) T(REVORROW), 152 Stibbard Ave, Toronto 12, Ont, Can. BIOLOGY. Toronto, Ont, Aug. 11, 88; m. 19; c. 3. B.A, Toronto, 11, fellow, 11-12, M.A, 12, M.B, 15, M.D, 28. Demonstr. & asst. biol, TORONTO, 12-15, lectr. comp. anat, 15-16, MAMMAL. anat, 19-24, asst. prof, 24-28, assoc. prof, 28-45, prof, 45-63, EMER. PROF, 63- Licentiate, Col. Phys. & Surg, Ontario. R.C.A.M.C, 16-19, Capt. Royal Can. Inst. Comparative anatomy; Annulata polychaeta; mammalian anomalies; blood vascular system in elasmobranchs; peritoneal reactions in Mammalia; life histories in Cladocera and viability of the sexes; abdominal musculature in vertebrates; vertebrate embryology; circulation of blood in Amphibia; comparative anatomy and physiology of Rodentia serum reactions.

BAILLIF, DR. RALPH N(ORMAN), Tulane University, School of Medicine, New Orleans 18, La. CYTOPHYSIOLOGY. Minneapolis, Minn, May 5, 09; m. 39; c. 3. A.B, St. Olaf Col, 30; A.M, Minnesota, 33, Ph.D.(zool), 35. Teaching asst. zool, Minnesota, 31-35, teaching fel. ANAT, 35-37; instr, sch. med, La. State, 37-42, asst. prof, 43-47; SCH. MED, TULANE, 47-52, assoc. prof, 52-58, PROF, 58- Asn. Cancer Res; Reticuloendothelial Soc; Endocrine Soc; Asn. Anat. Cytophysiology of secretion; reticulo-endothelial activity; hematology; relation of R.E. system to cancer growth.

BAILLY BATSON, DR. MARGARET, Psychiat, Pediat, see BATSON, DR. MARGARET BAILLY.

BAILY, DR. JOSHUA L(ONGSTRETH), JR, Box 1891, La Jolla, Calif. BIOLOGY. Philadelphia, Pa, Jan. 29, 89; m. 17. A.B, Haverford Col, 12, A.M, 13; B.Mus, Pennsylvania, 16; fel, Hopkins, 26-28, Sc.D.(biomet), 38. With Am. Red Cross, 19-21; Union Title Ins. Co, 21-26; with res. inst, San Diego Zool. Soc, 28-34; RES. ASSOC, SAN DIEGO SOC. NAT. HIST, 39- Mem, Am. Friends Serv. Cmn, 16-19.

BAILY, DR. NORMAN A(RTHUR), Space Sciences Dept, Hughes Research Labs, Malibu, Calif. PHYSICS. New York, N.Y, July 2, 15; m. 40; c. 2. B.S, St. John's (N.Y), 41; M.A, N.Y. Univ, 43; Ph.D, Columbia, 52. Instr. math, physics and elec. eng, Radio Corp. Am. Insts, New York, 42-46; asst. physics, Columbia, 46-48, res. sci, radiol. dept, 48-52; oper. anal, hqs, Strategic Air Command, 52-54; chief physicist, dept therapeut. radiol, Roswell Park Mem. Inst, 54-59; sr. res. physicist, Hughes Nuclear Electronics Lab, 59-61, MGR. SPACE SCI. DEPT, HUGHES RES. LABS, 61- Clin. prof. radiol, sch. med, California, Los Angeles, 61- Mem. sci. adv. bd, U.S. Air Force. AAAS; assoc. fel. Col. Radiol; Biophys. Soc; Research Soc; N.Y. Acad; Phys. Soc; Asn. Physicists in Med; Inst. Elec. & Electronics Eng; Soc. Test. Mat; Radiation Res. Soc. Measurement and research related to radioactive isotopes, x-rays and radium; applications of atomic energy to biology and medicine; radiation effects in solids; space radiation dosimetry; radiation hazards to man in space.

BAILY, PROF. WALTER L(EWIE), JR, Dept. of Mathematics, University of Chicago, Chicago, Ill. MATHEMATICS. Waynesburg, Pa, July 5, 30. S.B, Mass. Inst. Tech, 52; M.A, Princeton, 53, Nat. Sci. Found. fel, & Ph.D, (math), 55. Instr. MATH, Princeton, 55-56; Mass. Inst. Tech, 56-57; asst. prof, CHICAGO, 57-61, assoc. prof, 61-63, PROF, 63- Mathematician, Bell Tel. Labs, 57-58. Math. Soc. Several complex variables; modular functions of several variables.

BAILYN, DR. MARTIN H, Dept. of Physics, Northwestern University, Evanston, Ill. PHYSICS. Conn, June 24, 28. B.A, Williams Col, 48; Ph.D, Harvard, 56. From asst. prof. to ASSOC. PROF. PHYSICS, NORTHWESTERN, 58- Asst. res. officer, Nat. Res. Council Can, 58-59. Magnetism in metals.

BAIN, ALASTAIR STEWART, Atomic Energy of Canada Ltd, Chalk River, Ont, Can. METALLURGY. Penticton, B.C, June 16, 27; m. 52; c. 2. B.A.Sc, British Columbia, 50. RES. OFFICER, ATOMIC ENERGY CAN. LTD, 51- Soc. Metals. Irradiation behaviour of nuclear fuels; remote control handling of irradiated materials; pyrometallurgical reprocessing of irradiated uranium and fabrication of plutonium-aluminum alloys.

BAIN, CLARENCE J, Chem, see 10th ed, Phys. & Biol. Vols.

BAIN, DR. DOUGLAS COGBURN, Dept. of Plant Pathology, Mississippi State College, State College, Miss. PLANT PATHOLOGY. Knoxville, Tenn, Dec. 23, 08; m. 38; c. 2. B.A, Tennessee, 36; M.S, Agr. & Mech. Col. Texas, 37; Ph.D.(plant path), La. State, 43. Acting instr. bot, Agr. & Mech. Col. Texas, 37-40; agent, sugar plant div, U.S. Dept. Agr, La, 42-44, pathologist, plant disease prevention, Miss. & La, 44-45; res. assoc, La. State, 45-46; PATHOLOGIST, State Plant Bd, Miss, 46; Truck Crops Exp. Sta, 46-54, DEPT. PLANT PATH, 54- AAAS; Phytopath. Soc. Seed borne diseases of cotton; diseases of sorghum and sugar cane; antibiosis in actinomycetes; diseases of vegetables and forage crops.

BAIN, DR. EDGAR C(OLLINS), 434 Maple Lane, Edgeworth, Sewickley, Pa. PHYSICS, METALLURGY. LaRue, Ohio, Sept. 14, 91. B.S, Ohio State, 12,

Figure 4

Your answer is Guide to American Biography. Wrong. This reference book is fairly comprehensive bibliographical guide to source materials on major American historical personalities. Lloyd A. Baillie is not listed here. Return to the question on page 17 and select a reference tool that specializes in the subject field in which Baillie works.

Question

You are asked by a library patron to help him find information on a Japanese scientist, Dr. Kwang Bang Woo, currently engaged in research at one of the universities in the U.S. How would you respond to this request? Choose what you think is the best answer and turn to the page in this lesson that contains that answer.

24. Refer to Who's Who in Japan

25. Suggest that he contact the science attaché at the Japanese embassy.

26. Look in American Men of Science (AMS)

You are guessing. You answer is that you would refer to Who's Who in Japan. There is no such directory. The equivalent is entitled Japan Biographical Encyclopedia and Who's Who. However, Dr. Woo is not listed here. Return to the question on page 23 and pick another answer.

Your answer is that you would contact the science attaché at the Japanese embassy. You are not incorrect and might even secure some very helpful information. However, unless your library is in Washington, D.C., where the embassy is located, using this source could be expensive (if a long-distance telephone call is made) or time consuming (if inquiry is made through correspondence). Turn back to the question on page 23 and choose the correct answer.

Your answer is that you would look in American Men of Science. You are correct. Look at the entry from AMS in Figure 5 (p. 5956). Note that although there is a complete biographical citation for Dr. Woo there is no indication that he is a naturalized U. S. citizen. Then turn to the next question on page 28.

Ohio State, 57- Chem. Soc. Chemical constitution of sea water; reaction mechanism of Friedel-Craft catalysis; surface chemistry of glass. Address: Owens-Corning Fiberglas Corp, Granville, Ohio 43023.

WONG, DR. RUTH (LAU), b. Hong Kong, Nov. 25, 25; m. 52; c. 4. PATHOLOGY. M.B, B.Ch, Lingnam Univ, 48. Resident PATH, Children's Hosp, Wash, D.C, 51-52; Duke Hosp, Durham, N.C, 52-53; Michael Reese Hosp, Chicago, Ill, 53-54, fel, 54-55; res. asst, La Rabida Sanitarium, 55-56; COL. MED, ILLINOIS, 56-57, asst. prof, 57-66, ASSOC. PROF, 66- Surgical pathology; serotonin content of mast and enterochromaffin cells; relationship of mast cells to tissue response to inflammation, and of enterochromaffin cells to gastric physiology and pathology. Address: Dept. of Pathology, University of Illinois, 1853 W. Polk St, Chicago, Ill. 60612.

WONG, DR. S(OON) Y(UCK), b. San Antonio, Tex, Mar. 4, 20; m. 49; c. 3. CHEMICAL ENGINEERING. B.S. & M.S, Texas, 43, Gen. Elec. Co. Swope fel, 47-48, univ. fel, 48-49, Ph.D.(chem. eng), 49. Sr. res. engr, Shelly Oil Co, 49-50; res. assoc, Jefferson Chem. Co, 50-53, staff engr, 53-56; tech. asst. to dir, CONTINENTAL OIL CO, 56-61, supt. process lab, petrol. prod. res. & develop. div, 61-63, supvr. process develop. sect, petrochem. res. div, 64-65, PROJ. COORDINATOR, PETROCHEM. DEPT, 66- Chem. Soc; Inst. Chem. Eng. Coordination of commercial development of petrochemical processes. Address: Petrochemical Dept, Continental Oil Co, 9 Rockefeller Plaza, New York, N.Y. 10020.

WONG, DR. WALTER MUN-FAY, b. Canton, China, June 22, 12; U.S. citizen; m. 41; c. 1. DENTISTRY. A.B, St. Mary's Col.(Calif), 34; D.D.S, Col. Physicians & Surgeons San Francisco, 40. Clin. instr. prosthetic dent, UNIV. OF THE PACIFIC, 49-54, asst. clin. prof, 54-57, OPER. DENT, 57-61, asst. prof, 61-65, ASSOC. PROF, 65- Consult, Vet. Admin. Hosp, Martinez, Calif, 62- U.S.A.F, Maj. AAAS; Dent. Asn; Asn. Mil. Surg; Royal Soc. Health. Operative and prosthetic dentistry. Address: School of Dentistry, University of the Pacific, 2155 Webster St, San Francisco, Calif. 94115.

WONG, DR. WANG MO, b. Canton, Kwangtung, China; U.S. citizen; m. 49; c. 2. CHEMICAL ENGINEERING. B.S, Sun Yat-Sen Univ, 39; M.S, Iowa, 49, Ph.D.(chem. eng), 54. Chief chem. engr, U.S. Rubber Co, Joliet Arsenal, Ill, 55-60; res. engr, U.S. Borax & Chem. Corp, Calif, 60-61; SR. ENGR, ARMOUR PHARMACEUT. CO, KANKAKEE, 61- Chem. Soc; Inst. Chem. Eng. Research and process development in bench scale and pilot plant of organic and inorganic chemical process; specialization in continuous process development. Address: 637 Evergreen Lane, Bradley, Ill. 60915.

WONHAM, DR. W. MURRAY, b. Montreal, Que, Can, Nov. 1, 34. APPLIED MATHEMATICS, SYSTEMS ENGINEERING. B.Eng, McGill, 56; Ph.D.(eng), Cambridge, 61. Asst. prof. elec. eng, Purdue, 61-62; res. mathematician, Res. Inst. Adv. Study, 62-64; ASSOC. PROF. APPL. MATH. & ENG, BROWN, 64- Consult, NASA Electronics Res. Center, 65- Inst. Elec. & Electronics Eng; Soc. Indust. & Appl. Math. Systems theory. Address: Division of Applied Mathematics, Brown University, Providence, R.I. 02912.

WONNACOTT, DR. THOMAS HERBERT, Math. Statist, see 11th ed, Social Sci. Vol.

WOO, DR. CHING CHANG, b. Canton, China, Dec. 12, 15; U.S. citizen; m. 49; c. 4. PETROLOGY, MINERALOGY. B.S, Nat. Univ. Peking, 37; M.S, Chicago, 48, Ph.D.(petrol, mineral), 52. Asst. stratig, paleont. & struct. geol, Nat. Univ. Chungking, 38-40; asst. geologist, Geol. Surv. Szechwan, China, 40-42, chief paleontologist, 42-44; asst. geol, Univ. Chicago, 49-51; geologist & field engr, Crane Co, Ill, 52-55; chief geologist, Heavy Minerals Co, Tenn, 55-56; div. geologist, S.E. U.S, Vitro Minerals Corp, 56-59, res. geologist, 59-63; GEOLOGIST, U.S. GEOL. SURV, 63- Geol. Soc; Mineral. Soc. Am; Mineral. Asn. Can. Geotectonics; sedimentary petrology of dried lake sediments; petrogenesis of metamorphic and sedimentary rocks; petrographic analysis; mineral economics and mineral benefication of ores and ore deposits, especially placer type. Address: U.S. Dept. of the Interior, Geological Survey, Washington, D.C. 20242.

WOO, DR. GAR LOK, b. Canton, China, Jan. 14, 35; U.S. citizen; m. 64; c. 1. ORGANIC CHEMISTRY. B.S, California, Berkeley, 59; Nat. Insts. Health fel, Mass. Inst. Tech, 61-63, Ph.D.(org. chem), 63. RES. CHEMIST, CHEVRON RES. CO, STANDARD OIL CO. CALIF, RICHMOND, 63- Summers, lab. asst, Guardian Paper Co, 57, res. asst. California, Berkeley, 59, res. assoc, Mass. Inst. Tech, 63. Chem. Soc. Physical organic chemistry, mechanism, stereochemistry and synthesis; exploratory petrochemicals and surfactants. Address: 4 Janet Way, Apt. 105, Tiburon, Calif. 94920.

WOO, HENRY K(UO) C(HUAN), Statist, see 10th ed, Phys. & Biol. Vols.

WOO, DR. HENRY K(YI-OEN), b. Shanghai, China, Dec. 9, 19; nat. PHYSICAL CHEMISTRY. B.S, St. John's (China), 39; M.S, Lowell Tech. Inst, 48 & 51; Goodyear Tire & Rubber Co. fel, Princeton, 51-55, A.M, 53, Ph.D.(phys. chem), 55. Res. chemist, Indust. Rayon Corp, 55-57; head phys. chem. res, Clairol, Inc, 57-60; res. chemist, Avon Prod, Inc, 60-63; mgr. fiber physics proj, Owens Corning Fiberglas, 63-64; dir. basic res, Phillips Van Heusen Corp, 64-65; PRES, AURORA TEXTILE CO, 65- Chem. Soc; Translators Asn; Soc. Sci. & Eng. Translators. Physical chemistry of high polymers; x-ray diffraction; chemical microscopy; mechanical properties of fibers; garment manufacturing; Chinese-English translations and interpretations; hair dyes and cosmetics. Address: 406 Franklin Turnpike, Mahwah, N.J. 07430.

WOO, DR. JAMES T. K, b. Shanghai, China, June 7, 38. ORGANIC CHEMISTRY. B.A, Wabash Col, 61; Ph.D.(chem), Maryland, 67. Asst, Maryland, 61-63, res. asst, 63-66, fel, 66-67; RES. CHEMIST, DOW CHEM. CO, 67- Chem. Soc. Polymer chemistry. Address: Physical Research Lab, Bldg. 1712, Dow Chemical Co, Midland, Mich. 48640.

WOO, DR. KWANG B(ANG), b. Kyoto, Japan, Jan. 26, 34; m. 63; c. 2. ELECTRICAL ENGINEERING. B.E, Yonsei, Korea, 57, M.E, 59; M.S, Oregon State, 62, Ph.D.(elec. eng), 65. Instr. elec. eng, Yonsei, Korea, 59-60; res. mem, sci. res. inst, Ministry Nat. Defense, Korea, 57-60; res. asst, eng, Oregon State, 61-64, res. assoc. soils, 65; fel. biophys, inst. sci. tech, Michigan, 65-66; ASST. PROF. ELEC. ENG, WASHINGTON (ST. LOUIS) & RES. ASSOC, CENTER BIOL. NATURAL SYSTS, 66- NASA-Am. Inst. Biol. Sci. summer fel, 66. Mem, Simulation Coun. Korean Army, 57-60. AAAS; Inst. Elec. & Electronics Eng. Engineering biophysics; control systems theory and biological control systems at cellular and molecular levels; nonlinear systems analysis. Address: Dept. of Electrical Engineering, Washington University, St. Louis, Mo. 63130.

WOO, DR. P(ETER) W(ING) K(EE), b. Canton, China, June 22, 34; m. 60. ORGANIC CHEMISTRY. B.S, Stanford, 55; fel, Illinois, 56-58, Ph.D.(chem), 58. Assoc. res. chemist, PARKE, DAVIS & CO, 58-62, res. chemist, 62-66, SR. RES. CHEMIST, 66- Chem. Soc. Isolation and structural determination of antibiotics, amino sugars and carbohydrates. Address: Research Division, Parke, Davis & Co, Detroit, Mich. 48232.

WOO, DR. SHIEN-BIAU, b. Shanghai, China, Aug. 13, 37; m. 63; c. 1. ATOMIC & MOLECULAR PHYSICS. B.S, Georgetown Col, 57; M.A, Washington (St. Louis), 61, Ph.D.(physics), 64. Instr. math, Missouri, St. Louis, 61-62; res. assoc. PHYSICS, joint inst. lab. astrophys, Colorado, 64-66; ASST. PROF. DELAWARE, 66- Summer res. assoc, Washington (St. Louis), 64. Phys. Soc; Asn. Physics Teachers. Gaseous electronics; photodetachment of thermally relaxed molecular negative ion; ion-molecule reactions and transport properties of positive and negative ions. Address: Dept. of Physics, University of Delaware, Newark, Del. 19711.

WOO, DR. WAY DONG, b. Shanghai, China, Jan. 21, 17; nat; m. 44. c. 5. ELECTRONIC ENGINEERING. B.S, Chiao Tung Univ, 38; M.S, Harvard, 39, D.Sc.(commun. eng), 44. Instr, Harvard, 44-47, res. fel, 47-49, asst. prof, appl. physics, 49-51; tech. asst. to mgr, comput. dept, Raytheon Mfg. Co, 51-54; staff engr, datamatic div, Minneapolis-Honeywell Regulator Co, 54-60; PRES, CYBETRONICS, INC, 60- Vis. lectr, Harvard, 61. Consult, Minneapolis-Honeywell Regulator Co. Asn. Comput. Mach; Inst. Elec. & Electronics Eng. Digital computer development and applications; magnetic core memory; numerical methods. Address: 132 Calvary St, Waltham, Mass 02154.

WOOD, DR. ALBERT D(OUGLAS), b. Providence, R.I, June 8, 30; m. 57; c. 3. GAS DYNAMICS. Sc.B, Brown, 51, Ph.D.(eng), 59; M.S, Harvard, 53, instr. eng, Brown, 56-58; staff scientist, res. & develop. div, AVCO CORP, 58-64, chief gas dynamics res. sect, 64-66, PRIN. RES. SCIENTIST, EVERETT RES. LAB, 66- Soc. Eng. Ed; Inst. Aeronaut. & Astronaut. Theoretical and experimental aerophysics; high temperature gas dynamics; chemical kinetics; gas laser technology. Address: King George Dr, Boxford, Mass. 01931.

WOOD, PROF. ALBERT E(LMER), b. Cape May Court House, N.J, Sept. 22, 10; m. 37; c. 3. VERTEBRATE PALEONTOLOGY. B.S, Princeton, 30; M.A, Columbia, 32, Ph.D.(geol), 35, Cutting traveling fel, 34-35; hon. M.A, Amherst Col, 54. Asst. biol, Long Island, 30-33, tutor, 33-34; asst. geologist, U.S. Army Engrs, 36-39, assoc. geologist, 39-41, geologist, 41, 49; asst. prof. BIOL, AMHERST COL, 46-48, assoc. prof, 48-54, PROF, 54-, ASSOC. CURATOR VERT. PALEONT, PRATT MUS, 48- Nat. Sci. Found. sr. fel, Naturhistorisches Mus, Switz, 66-67. Paleont. expeds, west. U.S, 28, 31-32, 35; dir, Amherst Col. exped, 48, 57, 60, 63 & 65. U.S.A, 42-46, Res, 46-62, Col. AAAS; Soc. Mammal; fel. Paleont. Soc; fel. Geol. Soc; Soc. Zool; Soc. Vert. Paleont.(secy, treas, 58-59, v.pres, 59-60, pres, 60-61); Soc. Study Evolution; Soc. Syst. Zool. Rodent and lagomorph classification; paleontology and evolution. Address: Dept. of Biology, Amherst College, Amherst, Mass. 01002.

WOOD, ALBERT LEWIS, b. Halifax, N.S, Can, May 1, 10; m. 48; c. 1. PHYSICS, ENGINEERING. B.S, Dalhousie, 31; B.Sc, N.S. Tech. Col, 33. Engr, City of Halifax, N.S, 33-35; Milton Hersey Co, 35; plant engr, Can. Liquid Air Co, 35-37; sci. asst, HALIFAX LAB, FISHERIES RES. BD. CAN, 37-44, res. engr, 44-52, SR. SCIENTIST, 52- R.C.E.M.E, 37-46, 1st Lt. Mechanical drying process for heavily salted fish; air-conditioned smokehouse for fishery products; fish processing methods, equipment and plant design; freeze-drying of Atlantic cod. Address: Fisheries Research Board of Canada, Halifax Lab, P.O. Box 429, Halifax, N.S, Can.

WOOD, PROF. A(LEX) J(AMES), b. Vancouver, B.C, Can, Sept. 3, 14; m. 41; c. 2. BIOCHEMISTRY, BACTERIOLOGY. B.S.A, British Columbia, 36, M.S.A, 38; Ph.D.(bact, biochem), Cornell, 40. Bacteriologist, Fisheries Res. Bd. Can, 40-43, Defence Res. Bd. Can, 43-46; Ministry Supply, U.K, 47-48; prof. animal sci, British Columbia, 46-65; PROF. BIOCHEM. & DEAN COL. ARTS & SCI, VICTORIA (B.C), 65- AAAS; Chem. Soc; Nutrit. Soc; Can. Soc. Animal Prod. Animal growth and energetics. Address: Dept. of Biochemistry, University of Victoria, Victoria, B.C, Can.

WOOD, DR. ALLEN D(OANE), b. Englewood, N.J, Aug. 16, 35; m. 57; c. 3. MECHANICAL ENGINEERING. B.S.M.E, Purdue, 57, M.S.M.E, 61, Ph.D. (mech. eng), 63. RES. SCIENTIST LOCKHEED RES. LAB, 63- Ord.C, 57-[illegible] 1st Lt. Inst. Aeronaut. & Astronaut. Radiation gas dynamics; measurement of the radiant intensity from gases at superorbital entry conditions; [illegible]gh-speed instrumentation; shock tubes. Address: Lockheed Research Lab. 3251 Hanover, D52-20, B201, Palo Alto, Calif. 94304.

WOOD, DR. ALLEN JOHN, b. Milwaukee, Wis, Oct. 1, 25; m. 49; c. 2. ELECTRICAL ENGINEERING. B.E.E, Marquette, 49; M.S.E.E, Ill. Inst. Tech, 51; Ph.D.(elec. eng), Rensselaer Polytech, 59. Engr, Allis Chalmers Mfg. Co, Wis, 49-50; asst. Ill. Inst. Tech, 50-51; eng. analyst, Gen. Elec. Co, 51-59; mem. tech. staff, Hughes Aircraft Co, 59-60; SR. ENGR, ELEC. UTILITY ENG. OPER, GEN. ELEC. CO, 60- U.S.A, 43-46. AAAS; Nat. Soc. Prfnl. Eng; Inst. Elec. & Electronics Eng; Tensor Soc. Engineering analysis of complex technical or economic systems; business and system planning simulations and studies. Address: 901 Vrooman Ave, Schenectady, N.Y. 12309.

WOOD, PROF. A(RTHUR) E(UGENE), b. Fitzpatrick, Ga, Nov. 20, 85; m. 14; c. 3. CHEMISTRY. B.S, Mercer, 07; M.S, Vanderbilt, 09, fel, 09-11; Ph.D.

Figure 5

Question

You are asked by a patron to help him find out where Ruth Bien of Avon Products received her doctoral degree in cosmetic chemistry. Although Ruth Bien is listed in AMS (see Figure 6), there is no reference to a doctoral degree in the citation. How can you be of further help to the patron? Choose the best answer and turn to the page indicated.

30. Refer to the Addendum in AMS
31. Refer to AMS's Supplements
32. Suggest that the next (12th) edition of AMS will probably have the information and that you will contact the patron when it becomes available.

CO, 56-58, RES. MGR, 59- Chem. Soc; Inst. Chem. Eng; Electrochem. Soc. Rare metals, Beryllium, titanium, zirconium, tantalum, columbium, boron, selenium, rubidium, germanium, ceskium, and others.

BIELER, DR. B(ARRIE) H(ILL), 3706 Moorland Dr, Midland, Mich. MINERALOGY. Pasadena, Calif, June 17, 29; m. 55; c. 3. B.S, Calif. Inst. Tech, 51, M.S, 52; Ph.D.(mineral), Pa. State, 55. Field asst. reconnaissance geol. mapping, U.S. Geol. Surv, 52; res. asst. mineral, Pa. State, 52-55; geologist geochem. & petrol. U.S. Geol. Surv, 55-57; CERAMIST, DOW CHEM. CO, 57- Mineral. Soc; Geochem. Soc; Nuclear Soc; Ceramic Soc. Uranium in siliceous veins and zeolites; ceramics and refractories; nuclear ceramic fuels.

BIELESKI, CASIMIR, Guilford House 2-B, Scarsdale, N.Y. ORGANIC & PHYSICAL CHEMISTRY. Schenectady, N.Y, Feb. 28, 10; m. 48. B.S, Union (N.Y), 32; M.S. Holy Cross, 33, fel, 33-34. Instr, Holy Cross, 33-34; res. scientist, Nat. Aniline Div, Allied Chem. & Dye Co, 34-41, chief chemist, intermediates div, 41-48; res. scientist, Gen. Aniline Works Div, Gen. Aniline & Film Corp, 48-50, prod. supvr, 50-54, process & develop. scientist, 54-55; dir. res. org. chem, Zinsser div, Harshaw Chem. Co, 55-60; CONSULT. CHEMIST, 60- AAAS; Chem. Soc; Inst. Chem; Soc. Indust. Chem. Intermediates; anthraquinone; naphthalene; benzene; detergents; pharmaceuticals; fusions; sulfonations; physical and organic chemistry; tannins; dispersed colors.

BIELKOWICZ, PROF. PETER, Dept. of Aeronautical Engineering, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. AEROSPACE ENGINEERING. Kiev, Ukraine, Feb. 1, 02; U.S. citizen; m. 33; c. 1. M.Sc, Wilno, 30; dipl, Nat. Sch. Adv. Aeronaut. Studies, France, 33. Designer, Nat. Polish Aircraft Estab, 33-36, asst. chief designer, 36-39; group leader aircraft eng, French Nat. Aircraft Factory, 39-40; tech. adv, Polish Air Force, 43-45; asst. prof. appl. math, London Sch. Econ, 46-51, aerong, Brown, 51-53; assoc. prof, AIR FORCE INST. TECH, 53-60, PROF. AEROSPACE ENG, 60- Lectr, Ohio State, 58-62. Summers, consult, Boeing Airplane Co, Wash, 57-63, Allison Div, Gen. Motors Corp, Ind, 58-61. Assoc. fel.

BIELLIER, DR. HAROLD VICTOR, Dept. of Poultry Husbandry, University of Missouri, Columbia, Mo. PHYSIOLOGY. Bois D'Arc, Mo, Jan. 22, 31; m. 42; c. 2. B.S, Missouri, 43, Ph.D, 55. Asst. prof. mil. sci. & tactics, MISSOURI, 50-53, ASSOC. PROF. POULTRY HUSB, 53- U.S.A, 43-46, 50-53, Capt. Endocrine and reproductive physiology of domestic poultry.

BIELO, ROBERT JAMES, Biol, see 10th ed, Phys. & Biol. Vols.

BIELSKI, DR. BENON H. J, Brookhaven National Lab, Upton, N.Y. PHYSICAL CHEMISTRY. Poland, June 12, 27, U.S. citizen. B.A, Harvard, 51; M.A, Columbia, 56, Ph.D.(chem), 57. Asst. prof. CHEM, Florida, 57-58; res. assoc, BROOKHAVEN NAT. LAB, 58-60, assoc. chemist, 60-63, CHEMIST, 64- Chem. Soc. Radiation chemistry; chemistry of free radicals; low temperature biochemistry.

BIELY, PROF. JACOB, Dept. of Poultry Science, University of British Columbia, Vancouver, B.C, Can. POULTRY NUTRITION. Bogopol, Russia, Jan. 2, 03; m. 28; c. 4. B.S.A, British Columbia, 26, M.S.A, 30; M.S, Kans. State Col, 29, Technician, West. Wash. Exp. Sta, 26-27; Nat. Res. Coun. Can. asst, depts. bact. & poultry husb, BRITISH COLUMBIA, 27-29, 30-33, spec. asst, 33-35, asst. POULTRY HUSB, 29-30, instr, 35-43, asst. prof, 43-44, assoc. prof, 44-50, PROF, 50-, HEAD DEPT, 52- Mem. cmn. animal nutrit, Nat. Res. Coun, Can, 53-54. Fel. AAAS; fel. Poultry Sci. Asn; fel. Agr. Inst. Can; World Poultry Sci. Asn. Nutritive value of animal protein concentrates; vitamin and amino acid requirements of growing chickens; fat utilization by growing and laying birds; stress and nutritive requirements of chickens; effect of environment on egg production; British Columbia fish oils as sources of vitamins A and D; cholesterol absorption.

BIEMANN, DR. KLAUS, Dept. of Chemistry, Massachusetts Institute of Technology, 77 Massachusetts Ave, Cambridge 39, Mass. ORGANIC CHEMISTRY. Innsbruck, Austria, Nov. 2, 26; m. 56; c. 2. Ph.D.(chem), Innsbruck, Austria, 51. Instr. CHEM, Univ. Innsbruck, Austria, 51-55; res. assoc, MASS. INST. TECH, 55-57, instr, 57-59, asst. prof, 59-62, assoc. prof, 62-63, PROF, 63- Chem. Soc; Austrian Chem. Soc; hon. mem. Chem. Soc. Belgium. Mass spectrometry of organic compounds.

BIEN, DR. EDWARD, Meadowbrook Hospital, P.O. Box 108, Hempstead, N.Y. BIOCHEMISTRY. New York, N.Y, Oct. 24, 19; m. 45; c. 3. A.B, Vanderbilt, 40; M.D, N.Y. Univ, 44; intern, Greenpoint Hosp, 44-45; asst. resident, Montefiore Hosp, 45-46; fel. med, 3rd Div, Bellevue Hosp, 46-49, vis. clin. asst. & lab. instr. biochem, col. med, N.Y. Univ, 49-50, asst. med, 50; asst. med, & Welt fel, Mt. Sinai Hosp, 51-52, vis. clin. asst, 52; CONSULT. & BIOCHEMIST, MEADOWBROOK HOSP, 53-, ASST. ATTEND, 57- Chief lab, Moore Gen. Hosp, U.S.A, 46-47. AAAS; Soc. Exp. Biol; Harvey Soc; Rheumatism Asn; N.Y. Acad. Med. Intermediary metabolism of purines and thyroid hormones.

BIEN, DR. GEORGE S(UNG-NIEN), 24 Discovery Way, La Jolla, Calif. PHYSICAL CHEMISTRY. An-Ching, Anhuei, China, July 2, 03; nat; m. 38; c. 4. B.S, Shanghai Col, 26; M.S, Brown, 32, Ph.D.(phys. chem), 34. Res. chemist, phys. chem, Golden Sea Res. Inst. Chem. Indust, China, 34-37; prof, Kuang-Si Univ, 37-40; sub-mgr. & supt, Lanchow Chem. Works, 40-44; prof, Hua Chung Univ, 44-49; assoc. prof, Sterling Col, 50-51; CHEM. SPECIALIST, SCRIPPS INST, CALIFORNIA, 51- AAAS; Chem. Soc. Conductivity of electrolytic solutions; industrial utilization of bittern and the extraction of potassium chloride therefrom; chemical properties of recent marine sediments; genesis of clay minerals; C-14 dating and study in ocean waters.

BIEN, DR. PAUL B(EH NIEN), 202 Alder Lane, Oak Ridge, Tenn. PHYSICAL CHEMISTRY. Anhwei, China, July 2, 03; nat; m. 37; c. 3. B.S, Shanghai Baptist Col, China, 25; Ph.B, Brown, 28, univ. scholar, 28-29, Sc.M, 29, univ. fel, 29-31, Metcalf fel, 31-32, Ph.D.(phys. chem), 32. Acting prof. phys. chem, Wuhan, 33; prof. phys. & anal. chem, Anhwei Univ, China, 33-34; assoc. prof. phys. & gen. chem, Hopei Inst. Tech, 34-37; Lingnam Univ, 38-40; prof. & acting dean sci. col, Cheeloo Univ, 44-46; prof. phys. & org. chem, Shanghai Univ, 46-49; sr. sci. master physics & chem, Queen's Col, Hongkong, 49-55; res. fel. phys. chem, Indiana, 55-56; assoc. prof. gen. chem. & thermodyn, Youngstown, 56-60; RES. CHEMIST, OAK RIDGE NAT. LAB, 60- AAAS; Research Soc; Chem. Soc. Physical chemistry of electrolytic systems; conductivity of electrolytes in non-aqueous solvents; viscosity; electromotive force; transference; molten salts; isopiestic measurements in aqueous solutions.

BIEN, RUTH R(UDOLPH), Avon Products, Inc, 10 Rockefeller Plaza, New York, N.Y. CHEMISTRY. New York, N.Y, Oct. 29, 04; m; c. 1. B.S, Columbia, 26. Asst. biochem, Teachers Col, Columbia, 26-30; anal. chemist, good housekeeping bur, Hearst Mags, Inc, 31-43, supvr. chemists, 43-46, chief chemist, 46-63; MGR. EVAL. LAB, AVON PRODS, INC, 63- AAAS; N.Y. Acad; Assoc. Chem. Soc; assoc. Soc. Cosmetic Chem.(secy,48-51); Inst. Food Tech; assoc. Home Econ. Asn. Metabolism and vitamins; analytical methods in cosmetics and detergents.

BIEN, DR. SAUL M(ARCUS), 76 Union Ave, Lynbrook, N.Y. ORTHODONTICS, BIOPHYSICS. New York, N.Y, Nov. 7, 13; c. 3. B.A, N.Y. Univ, 33, M.S, 61; D.D.S, Columbia, 37, Cert, 45. Intern, Guggenheim Dent. Clin, 37-38; clin. asst, French Hosp, 38-42; sr. res. dentist, N.Y, 42-48; orthodontist, regional off, U.S. Vet. Admin, N.Y, 48-51; guest scientist, Brookhaven Nat. Lab, 57; RES. ASSOC. PROF. MICROBIOL, N.Y. UNIV, 64- Practicing orthodontist, 38- Dipl, Am. Bd. Orthod, 51. U.S.A, 46, 1st Lt. Fel. AAAS; fel. Col. Dent; fel. N.Y. Acad; fel. Med. Writers Asn, Asn. Orthod; Dent. Asn; Acad. Dent. Med; Chem. Soc; Electrochem. Soc; fel. Royal Micros. Soc; European Orthod. Soc; Int. Asn. Dent. Res. Microanalysis of fluorides; key ridge indicator; analysis of components of forces in movement of teeth; disintegration of solder joints on stainless steel; statistical evaluation of orthodontic diagnostic records; growth and development of the head; autoradiography with flourine -18; action currents of muscles.

BIENEMAN, RICHARD A, Spencer Kellog Division, Textron, Inc, Research Lab, Box 2510, Buffalo 25, N.Y. CHEMICAL ENGINEERING. Evansville, Ind, July 11, 23; m. 57; c. 3. B.S, Michigan, 47. Prod. supvr. synthetic enamels; Rinshed Mason Co, 47-50; chief chemist lab, Seal-Rite Co, 50-55; MGR. tech. serv. lab, SPENCER KELLOGG DIV, TEXTRON, INC, 55-61, TECH. SERV. DEPT, 61- U.S.A, 41-44, 1st Sgt. Soc. Test. Mat; Fedn. Socs. Paint Tech; Soc. Plastics Indust. Resins for coatings; adhesives; plastics; sealants.

BIENENSTOCK, DR. ARTHUR IRWIN, Division of Engineering & Applied Physics, Harvard University, Cambridge, Mass. SOLID STATE PHYSICS. New York, N.Y, Mar. 20, 35; m. 57; c. 2. B.S, Polytech. Inst. Brooklyn, 55, M.S, 57; Nat. Sci. Found. fel, Harvard, 56-60, Ph.D.(appl. physics), 62. Nat. Sci. Found. fel, Atomic Energy Res. Estab, Eng, 62-63; ASST. PROF. APPL. PHYSICS, HARVARD, 62- Summers, physicist, Nat. Bur. Standards, 57, 58, 62. Crystallog. Asn; Phys. Soc. Band theory of metals; thermal expansion theory; order-disorder; x-ray diffraction by imperfectly crystallized and non-crystalline materials.

BIENERT, DR. WALTER B, Martin Co, Mail 863, Baltimore, Md. PHYSICS. Leipa, CSR, Oct. 23, 31; m. 59; c. 2. B.S, Munich Tech, 53, M.S, 55, Ph.D. (physics), 59. Asst. physics, Munich Tech, 55-59; res. specialist, MARTIN MARIETTA CORP, 60-62, SCIENTIST, 62- Phys. Soc. Direct energy conversion, especially magnetoplasmadynamic power generation and associated areas of plasma physics.

BIENIEK, PROF. MACIEJ P, School of Engineering, University of Southern California, Los Angeles, Calif. APPLIED MECHANICS, STRUCTURAL ENGINEERING. Wilno, Poland, Jan. 5, 27; m. 61; c. 2. Civil Engr, Danzig Tech, 48, M.S, 48, D.Sc.(appl. mech), 51. Lectr. mech, Danzig Tech, 52-55, prof, 55-57; Polish Acad. Sci, 57-58; vis. scholar, Columbia, 58-59, assoc. prof. CIVIL ENGR. & MECH, 60-63. vis. lectr, Princeton, 59-60; PROF, SOUTHERN CALIFORNIA, 63- Consult, Chinese Acad. Sci, 56-57. Inst. Aeronaut. & Astronaut; Soc. Civil Eng. Dynamics; mechanics of inelastic solids; dynamics of structures: theory of plates and shells.

BIENSTOCK, D(ANIEL), U.S. Bureau of Mines, 4800 Forbes Ave, Pittsburgh, Pa. CHEMICAL ENGINEERING. Brooklyn, N.Y, Dec. 1, 17; m. 47; c. 3. B.A, Brooklyn Col, 37; M.S, N.Y. Univ, 40; M.S, Carnegie Inst. Tech, 57. Chemist, Edgewood Arsenal, U.S. Dept. War, 41-46; supvry. chem. engr, U.S. BUR. MINES, 46-60, ASST. PROJ. COORDINATOR, 60- Inst. Chem. Eng; Soc. Mech. Eng; Chem. Soc; Nat. Soc. Prfnl. Eng; Air Pollution Control Asn; Brit. Inst. Fuel. Synthesis of liquid and gaseous fuels; high-temperature combustion; air pollution; oxides of sulfur and nitrogen.

BIENVENU, DR. RENE JOSEPH, JR, Northwestern State College of Louisiana, Natchitoches, La. MICROBIOLOGY. Colfax, La, Mar. 19, 23; m. 48; c. 3. B.S, La. State, 44, M.S, 49; Ph.D.(bact), Texas, 57. Bacteriologist, Confederate Mem. Hosp, 49-50; asst. prof. MICROBIOL, NORTHWEST. STATE COL.(LA), 50-58, assoc. prof, 58-62, PROF, 62-, HEAD DEPT, 60- Vis. prof, Texas, summer, 58. Consult, Natchitoches Parish Hosp, 58-U.S.N, 44-46. Soc. Microbiol. Immunology; antigenic aspects of Brucella species.

BIENZ, DR. DARREL R(UDOLPH), Dept. of Horticulture, Washington State University, Pullman, Wash. PLANT BREEDING. Bern, Idaho, April 1, 26; m. 50; c. 5. B.S, Idaho, 50; Ph.D.(plant breeding), Cornell, 55. Asst. prof. hort, Idaho, 54-58; horticulturist, Agr. Res. Serv. & Idaho, 58-59; ASST. PROF. HORT, WASHINGTON STATE, 59- U.S.A, 45-46. Soc. Hort. Sci; Potato Asn. Vegetable breeding and incompatibility; general vegetable research.

BIER, DR. JOHN K(RTEL), Dept. Biology & Botany, University of British Columbia, Vancouver 8, B.C, Can. FOREST PATHOLOGY. Stratford, Ont, May 3, 09; m. 36; c. 1. B.Sc.F, Toronto, 32, M.A, 36, Ph.D.(forest path),

Figure 6

Your answer is that you would refer to AMS's Addendum. Correct. The Addendum to AMS often contains information that became available too late to be included in the main citation. In this case, however, Ruth Bien is not listed in the Addendum. So, there are two possible conclusions: (1) She does not have a doctoral degree, or (2) the information about her doctoral degree became available too late to be included in the 11th edition of AMS.

Turn to page 33.

Your answer is that you would refer to AMS's Supplements. You are wrong. The Supplements are designed to give significant new data on scientists whose biographies appear in the base volumes. This information covers changes in position and address, deceased notices, and a few other items of importance. However, the Supplements are not meant to take the place of full revisions. Therefore, among the kinds of information being held for the 12th edition (to be published beginning in 1970) are corrections in dates and refinements in educational data. Return to page 28 and choose the correct answer.

Your answer is that you would suggest that the next (12th) edition of AMS will probably have the information and that you will contact the patron when it becomes available. This might seem to be a very sensible thing to do. But in view of the fact that publication of the 12th edition is not scheduled to begin until 1970, you must find an approach to the problem that will be more helpful to the patron. Return to the question on page 28 and choose a better answer.

You have now completed the programmed instruction. On the following pages, you will find a set of questions for review purposes.

Questions

1. American Men of Science is published annually.

   (A) true (B) false

2. Biographies of scientists whose data were received too late for inclusion in the base volume of AMS are made available through the Supplementary Service.

   (A) true (B) false

3. AMS is published in three sections.

   (A) true (B) false

4. In order to be included in AMS, an individual must be listed in Who's Who in Science.

   (A) true (B) false

5. Citations on individuals may be dropped from AMS if they are deceased.

   (A) true (B) false

6. Only U.S. citizens are included in AMS.

   (A) true (B) false

Turn to the correct answers on page 35.

1. (B) false. The correct answer is that AMS is published at five-year intervals.

2. (A) true.

3. (B) false. The correct answer is that AMS is published in two sections: Physical and Biological Sciences; Social and Behavioral Sciences.

4. (B) false. There is no directory entitled Who's Who in Science. Criteria for inclusion in American Men of Science are on page 7 of this lesson.

5. (A) true. Even though the current edition of AMS does not have a complete biographical citation on an individual who is dead, it will refer to the edition that does.

6. (B) false. Many scientists are listed who are not U.S. citizens but who are currently engaged in research in this country and who otherwise meet the criteria for inclusion.